Name: _____ **7 Levels of Classification Input Rotation**

EQ: _____

Questions

L1: _____

_____

_____

_____

_____

Answer: _____

_____

_____

_____

_____

L2: _____

_____

_____

_____

_____

Answer: _____

_____

_____

_____

_____

L3: _____

_____

_____

_____

_____

_____

Answer: _____

_____

_____

_____

_____

_____

What is Classification?

Classification is the _____ of living organisms according to similar _____ and _____.

Early Classification System

_____ grouped _____ according to the way they _____.

The Modern Classification System

Developed by _____ _____.

Broken into 3 _____.

1. _____ 2. _____ 3. _____

Each Domain is broken into 7 levels:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Helpful way to remember the 7 levels of classification

K **P** **C** **O** **F** **G** **S**

Summary:

_____

_____

_____

_____

Name: _____ **7 Levels of Classification Reading Rotation**

EQ: _____

This worksheet goes with pages 55-57 of your textbook.

1. Read page 55. Answer the question on page 55, labelled **7 Claims Evidence Reasoning**.
2. Read page 56, and fill in the notes below:

Binomial Nomenclature

Developed by **Carolus Linnaeus**

(Paragraph 1) Each kind of living thing has a _____ - part *scientific name*

(Paragraph 2) The first part is the organism's _____

_____ name is the organism's _____

(Paragraph 3) **What rules are used to write scientific names?**

The first letter of the **genus** is ALWAYS _____

The first letter of the **species** is NEVER _____

Scientific names of organisms are always _____ or

_____

3. Read page 57. Answer the question on page 57, labelled **10 Apply**.

4. **Answer in 2-3 complete sentences:** Why do people need a universal system of naming organisms?

_____

_____

_____

_____

_____

Homework:

L2 Question: _____

_____

_____

Answer: _____

_____

_____

How do scientists know living things are related?

If two organisms look similar, are they related? To classify organisms, scientists compare physical characteristics. For example, they may look at size or bone structure. Scientists also compare the chemical characteristics of living things.

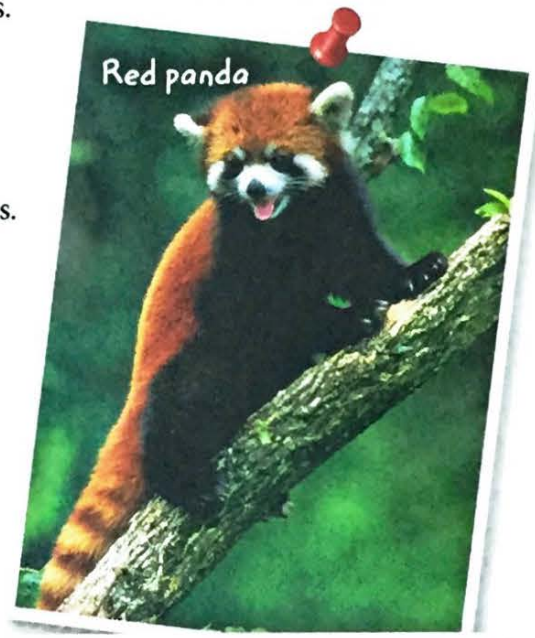
Physical Characteristics

How are chickens similar to dinosaurs? If you compare dinosaur fossils and chicken skeletons, you will see that chickens and dinosaurs share many physical characteristics. Scientists look at physical characteristics, such as skeletal structure. They also study how organisms develop from an egg to an adult. For example, animals with similar skeletons and development may be related.

Chemical Characteristics

Scientists can identify the relationships among organisms by studying genetic material such as DNA and RNA. They study mutations and genetic similarities to find relationships among organisms. Organisms that have very similar gene sequences or have the same mutations are likely related. Other chemicals, such as proteins and hormones, can also be studied to learn how organisms are related.

The two pandas below share habitats and diets. They look alike, but they have different DNA.



The red panda is a closer relative to a raccoon than it is to a giant panda.

The giant panda is a closer relative to a spectacled bear than it is to a red panda.

7 Claims • Evidence • Reasoning
How does DNA lead scientists to better classify organisms? Explain your reasoning.

What's in a Name?

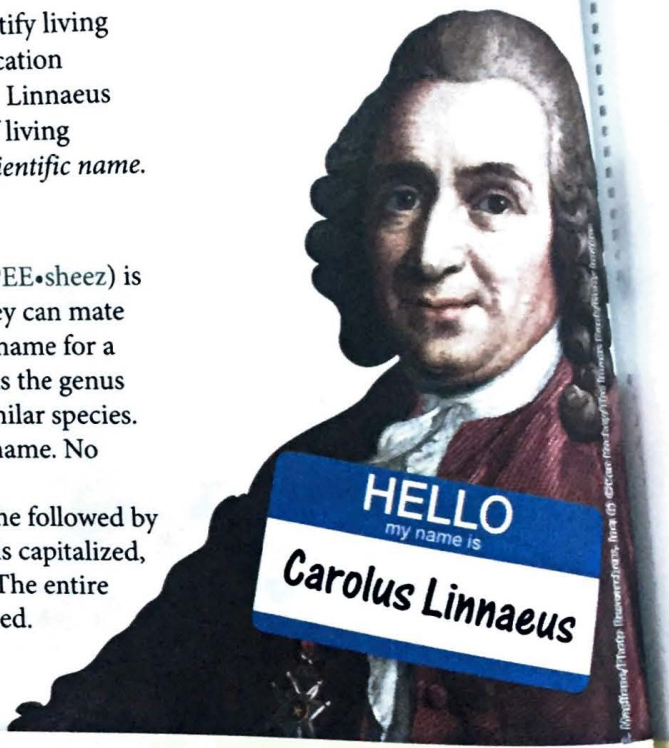
How are living things named?

Early scientists used names as long as 12 words to identify living things, and they also used common names. So, classification was confusing. In the 1700s, a scientist named Carolus Linnaeus (KAR•uh•luhs lih•NEE•uhs) simplified the naming of living things. He gave each kind of living thing a two-part *scientific name.*

Scientific Names

Each species has its own scientific name. A **species** (SPEE•sheez) is a group of organisms that are very closely related. They can mate and produce fertile offspring. Consider the scientific name for a mountain lion: *Puma concolor*. The first part, *Puma,* is the genus name. A **genus** (JEE•nuhs; plural, *genera*) includes similar species. The second part, *concolor,* is the specific, or species, name. No other species is named *Puma concolor.*

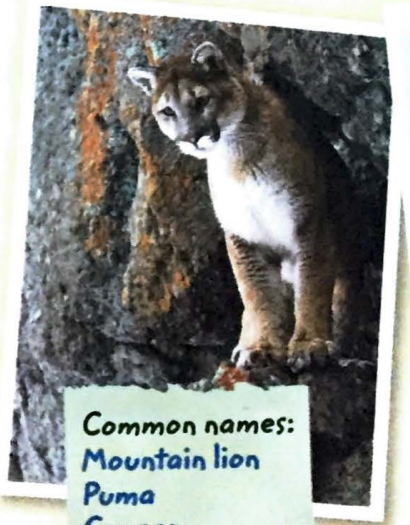
A scientific name always includes the genus name followed by the specific name. The first letter of the genus name is capitalized, and the first letter of the specific name is lowercase. The entire scientific name is written either in italics or underlined.



The A.K.A. Files

Some living things have many common names. Scientific names prevent confusion when people discuss organisms.

Scientific name:
Puma concolor



Common names:
Mountain lion
Puma
Cougar
Panther

Scientific name:
Acer rubrum

Common names:
Red maple
Swamp maple
Soft maple

8 Apply In the scientific names above, circle the genus name and underline the specific name.

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Active R

9 Identify A
the levels

Active Reading

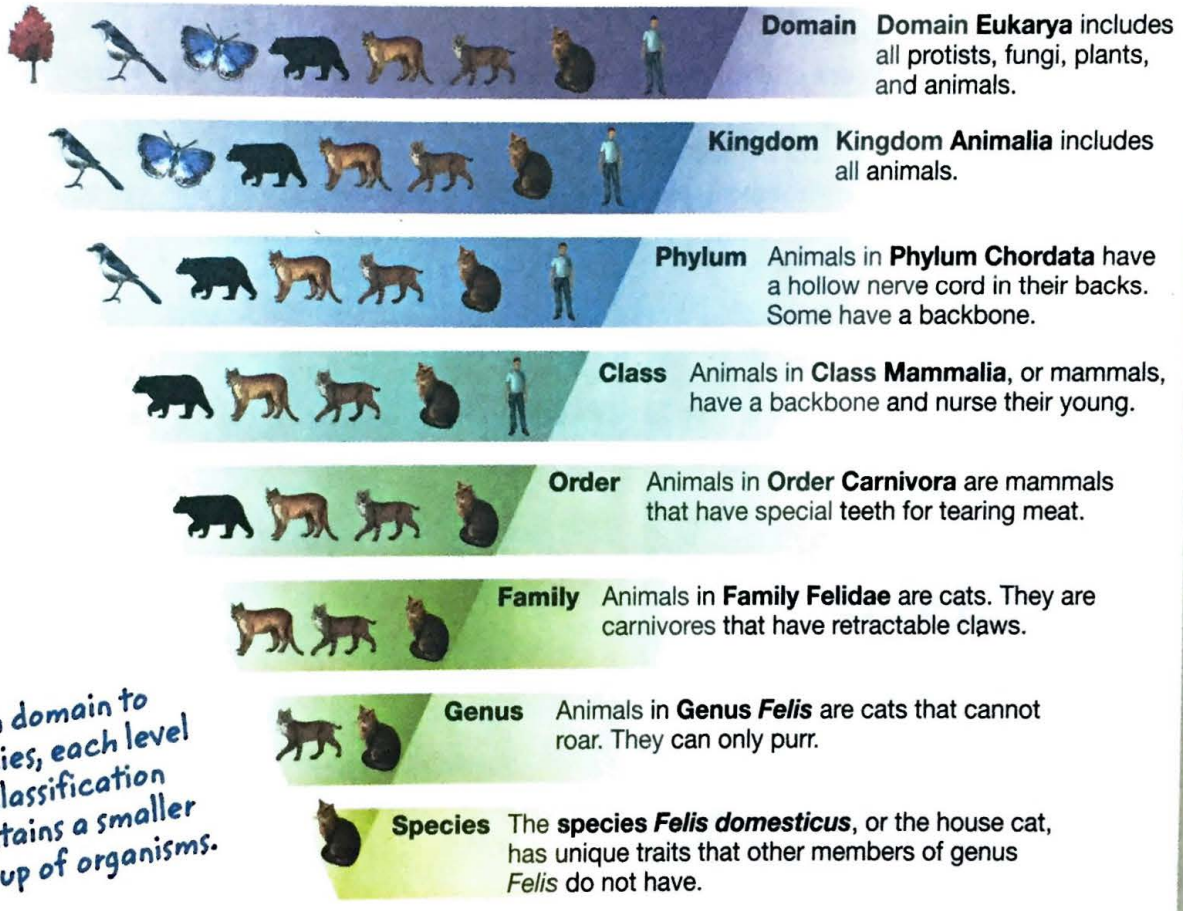
9 Identify As you read, underline the levels of classification.

What are the levels of classification?

Linnaeus's ideas became the basis for modern taxonomy (tak•SAHN•uh•mee). *Taxonomy* is the science of describing, classifying, and naming living things. At first, many scientists sorted organisms into two groups: plants and animals. But numerous organisms did not fit into either group.

Today, scientists use an eight-level system to classify living things. Each level gets more specific. Therefore, it contains fewer kinds of living things than the level above it. Living things in the lower levels are more closely related to each other than they are to organisms in the higher levels. From most general to more specific, the levels of classification are domain, kingdom, phylum (plural, *phyla*), class, order, family, genus, and species.

Classifying Organisms



From domain to species, each level of classification contains a smaller group of organisms.

Visualize It!

10 Apply What is true about the number of organisms as they are classified closer to the species level?

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