



Classification of Life

If your worksheet is completed, you are allowed to make corrections or additions just like we do on notes.

Also double-check your spelling!

If it is not done, you need to finish it on your own time and then see me for the answer key to check your work.

Site #1: Biological Classification

1. What does the word “species” mean in Latin? **KIND**
2. What two terms are used for an organism’s binomial name?
GENUS and **SPECIES**
3. What is the scientific name for a red maple? **Acer rubrum**
4. What do all trees in the Dicotyledoneae subclass have in common?
EMBRYO HAS TWO SEED LEAVES

Site #2: Teacher's Domain - Animal Classification Game

1. Click the link for "Animal Classes" to help you identify each animal group by its description.

INSECTS Cold-blooded invertebrates that have 3 body segments and 3 pairs of legs.

MAMMALS Warm-blooded vertebrates that have hair or fur, give birth to live young, and nurse their young with milk.

BIRDS Warm-blooded vertebrates that have feathers and wings as well as lay eggs.

REPTILES Cold-blooded vertebrates that have scales, dry skin, and usually lay eggs.

AMPHIBIANS Cold-blooded vertebrates that have moist, smooth skin, live on land and water, and have webbed feet.

2. Click the link for "Classification Games" and try each one.

African Savannah = ? out of 20 North American Forest = ? out of 20

Site #3: A Touch of Class

Category	Points Earned	Points Missed	Total Points
?			

What categories did you have?

Were there any organisms that you classified incorrectly? Why?

Site #4: Ology: The Tree of Life

Read the information to answer the first question.

1. What type of diagram do scientists use to show how species are related? **CLADOGRAM**

2. Click "*EXPLORE THE TREE OF LIFE CLADOGRAM*" button.

(1) What do we call the chemical that cells need to work and reproduce? **DNA**

(2) What structure do eukaryotes have in their cells? **NUCLEUS**

(3) What protein do all animals have in common? **COLLAGEN**

(4) What do all vertebrates have in common? **BACKBONES**

(5) What term refers to animals with four limbs and moveable joints?
TETRAPODS

6) Click "*FIND OUT*". What percentage of the world's organisms are classified in each group?

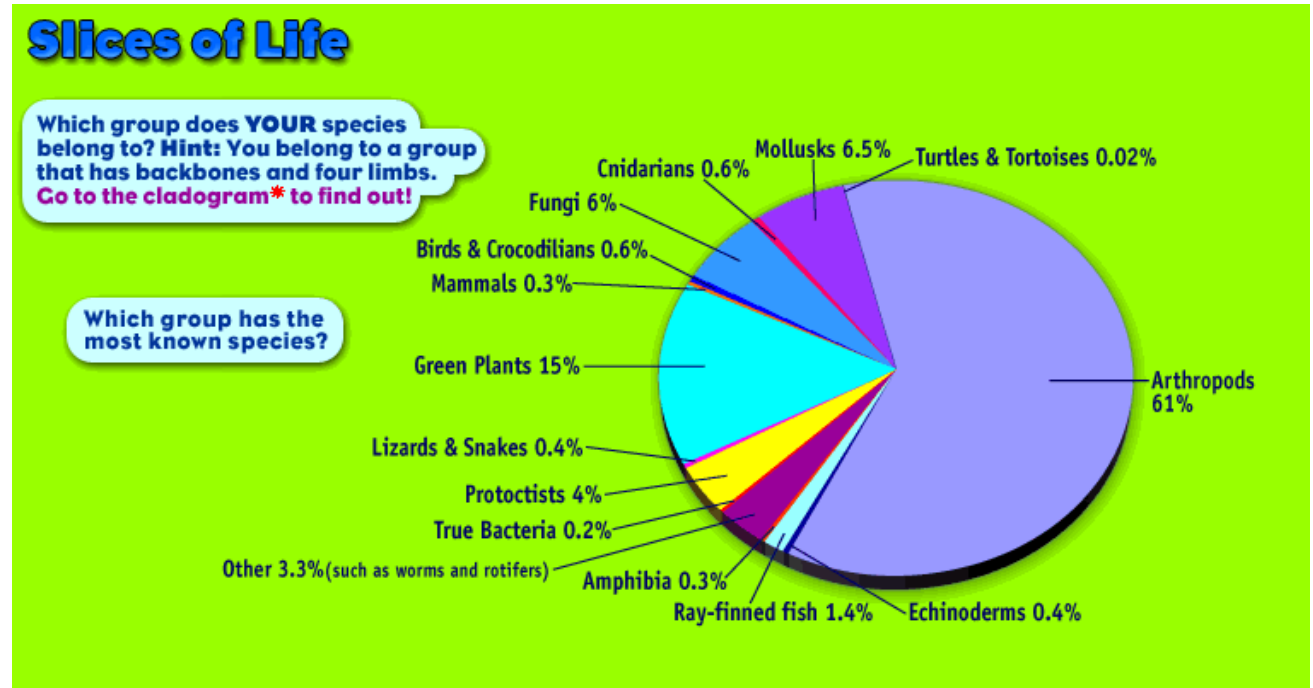
Bacteria - **0.2%**

Protoctists - **4%**

Green Plants - **15%**

Fungi - **6%**

Mammals - **0.3%**



Quick Questions:

Which is larger: fungi or mammals?

Which vertebrate group in the graph is the largest?

(7) Which animal group makes up the largest percentage of the world's organisms? **ARTHROPODS**

(8) Click "**CLADOGRAM**" at the top to return to the diagram. Give an example of each type of organism.

Echinoderm →

Cnidarian

Arthropod

Mammal

Echinoderms

CHARACTERISTICS: animals without a backbone, head, eyes, or brain; have radial symmetry, usually with 5 arms
KNOWN SPECIES: approximately 7,000
SIZE RANGE: less than .39 inches to 6.5 feet (1 centimeter to 2 meters)
WHERE THEY LIVE: in oceans

What percent of our world's living things are echinoderms?
echinoderms 0.4%

Here are just **SOME** of the world's echinoderms:

Photos are not actual size!

slate pencil urchin
Scientific Name: *Eucidaris tribuloides*

sunflower seastar *
Scientific Name: *Pycnopodia helianthoides*

blood star
Scientific Name: *Henricia leviuscula*

bat star
Scientific Name: *Asterina miniata*

sand dollar
Scientific Name: *Dendraster excentricus*

sea cucumber
Scientific Name: *Leptosynapta inhaerens*

Guess What?
When stressed, sea cucumbers may spit out all of their internal organs, but they can usually grow them back!

previous group next group

(8) Click "**CLADOGRAM**" at the top to return to the diagram. Give an example of each type of organism.

Echinoderm

Cnidarian 

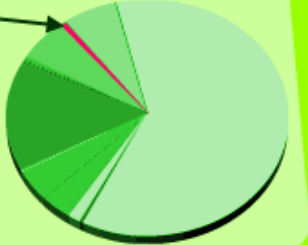
Arthropod

Mammal

Cnidarians

CHARACTERISTICS: animals without a backbone; have stinging cells* in their tentacles, which they use for defense and to capture prey
KNOWN SPECIES: approximately 10,000
SIZE RANGE: Less than .04 inches to over 164 feet (1 millimeter to over 50 meters)
WHERE THEY LIVE: in oceans; a few in fresh waters

What percent of our world's living things are cnidarians?
cnidarians 0.6%



Here are just SOME of the world's cnidarians:

Photos are not actual size!

- egg yolk jellyfish**
Scientific Name: *Phacellophora camtschatica*
- gorgonian coral***
Scientific Name: *Gorgonia flabellum*
- smooth flower coral**
Scientific Name: *Eusmilia fastigiata*
- swimming anemone**
Scientific Name: *Stomphia coccinea*
- tube anemone**
Scientific Name: *Pachyceriatthus fimbriatus*
- California tube coral**
Scientific Name: *Dendrophyllia californica*
- symmetrical brain coral**
Scientific Name: *Diploria strigosa*
- Portuguese man-of-war***
Scientific Name: *Physalia physalis*

Guess What?
Coral reefs are among the largest structures made by living organisms.

previous group next group

(8) Click "**CLADOGRAM**" at the top to return to the diagram. Give an example of each type of organism.

Echinoderm

Cnidarian

Arthropod 

Mammal

Arthropods

CHARACTERISTICS: animals without a backbone; armor-like covering; a body split into segments with jointed legs or mouthparts
KNOWN SPECIES: over 1 million (over 8 million estimated)
SIZE RANGE: microscopic to 13 feet (about 0.1 millimeter to 4 meters)
WHERE THEY LIVE: land, fresh waters, and oceans

What percent of our world's living things are arthropods?
arthropods 61%

Here are just **SOME** of the world's arthropods:

white-tailed spider*
Scientific Name: *Lampona cylindrata*

ten-spot skimmer dragonfly*
Scientific Name: *Libellula pulchella*

mustached mud bee
Scientific Name: *Anthophora abrupta*

pseudoscorpion*
Scientific Name: *Dactylochelifer copiosus*

Mexican redknee tarantula
Scientific Name: *Brachypelma smithii*

Sally lightfoot crab
Scientific Name: *Grapsus grapsus*

Formosan* subterranean termite
Scientific Name: *Coptotermes formosanus*

owl butterfly
Scientific Name: *Caligo atreus*

yellow fever mosquito*
Scientific Name: *Aedes aegypti*

Asian multicolored ladybird beetle*
Scientific Name: *Harmonia axyridis*

Varroa mite*
Scientific Name: *Varroa jacobsoni*

Mediterranean fruit fly
Scientific Name: *Ceratitis capitata*

leaf-cutting ant*
Scientific Name: *Atta cephalotes*

Guess What?
Creepy, crawly, and beautiful, arthropods are by far the largest group of animals on Earth! Almost a third of all known species on Earth are beetles.

previous group next group

Photos are not actual size!

(8) Click "**CLADOGRAM**" at the top to return to the diagram. Give an example of each type of organism.

Echinoderm

Cnidarian

Arthropod

Mammal 

Mammals

CHARACTERISTICS: animals with a backbone; produce milk for their young; body covered with hair
KNOWN SPECIES: approximately 4,600
SIZE RANGE: Less than 2.4 inches to more than 108 feet (6 centimeters to more than 33 meters)
WHERE THEY LIVE: mainly on land; some live in oceans and fresh waters

What percent of our world's living things are mammals?



0.3%

Here are just SOME of the world's mammals:

Photos are not actual size!

human
Scientific Name: *Homo sapiens*

green acouchi
Scientific Name: *Myoprocta acouchy*

warthog
Scientific Name: *Phacochoerus africanus*

giant panda
Scientific Name: *Ailuropoda melanoleuca*

aye-aye *
Scientific Name: *Daubentonia madagascariensis*

giraffe
Scientific Name: *Giraffa camelopardalis*

orca
Scientific Name: *Orcinus orca*

caracal
Scientific Name: *Caracal caracal*

Guess What?
Genetic studies have suggested that hippopotamuses are closely related to whales and dolphins.

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Site #5: Ology: It Takes All Kinds to Make A World.

Into which kingdom does each organism belong? After you find the right one, write the name of the kingdom on the line.

Blue-Green Alga

TRUE BACTERIA

Extreme Microbe

ARCHAEA

Red Mangrove - **PLANT**

Spiny Lobster - **ANIMAL**







Giant Kelp - **PLANT**

Tube Worms - **ANIMAL**

Fungus - **FUNGI**

Diatom - **PROTISTS**

Major Groups of Life on Earth

	10,000 known species, but there may be as many as 4 million!
	Unknown number of species. These bacteria-like organisms were once thought to be rare. They are now estimated to be 50% of the species found in the open ocean — both the largest part of the ocean and the area that is still mostly unexplored.
	At least 60,000 known species. Though not a "true" group, these organisms are found in all habitats* on Earth. Protists are the reason the ocean looks green near the shore.
	Of the estimated 1,500,000 species of fungi, scientists have described just 60,000. Only 500 species live in the oceans, where they prefer coastal environments.
	About 1,000,000 described species. Animals are unique life forms because they have nervous systems (except for sponges), which enable them to feel and touch.
	Over 250,000 described species. There are three kinds of plants: red, green, and brown. These three groups, although all plants, are not closely related. Green plants are common on land, and mostly red and brown plants live in the oceans.