Animal Skulls
Which animals are our closest relatives?

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You Will Need

❏ Access to Science-U website

Directions

1. Watch the video.

2. Examine each video in the Animal Relatedness Challenge to determine the characteristics of each animal.

3. Click on a checkbox to select the animal that is more closely-related to humans. You will be alerted if you are incorrect and congratulated when you are correct.

4. After successfully completing level one, complete the same task with two more levels.

5. What did you consider when making your decisions?

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After the Online Challenge

What made you choose which animal is more closely related to humans?

After looking at the phylogenic tree do you notice similar characteristics of animals that are nearer to each other on the chart?

Keywords

Organism
There is some disagreement on the best way to define an organism. A common way is to define it as any living, biological system that can function as an individual life form (e.g. an animal, plant, or fungus among others).

Classification
Arranging organisms in groups according to similarities.

Genetics
Relating to characteristics controlled by DNA or genes.

Phylogenic Tree
A diagram that shows the evolutionary relationship between different organisms over a specific time period.

Mammals
Animals with hair that nourish their young with milk.

Evolutionary Relationships
Relationships based on organisms with shared ancestry.

Rodents
Small gnawing mammals such as squirrels and mice that are known for their teeth.

Carnivores
Animals with long, sharp canine teeth that only eat meat.

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How do scientists classify organisms?

Scientists classify organisms by comparing their traits. We look at what characteristics they have in common and what makes them different to figure out how closely organisms are related. It's like how we share features with our family members.

Animals that look alike, such as zebras and horses, are usually closely related. Scientists compare things such as bone shapes, teeth, and eye socket size to see if organisms share similar traits and might be related.

Genetics also helps scientists understand evolutionary relationships. If animals have similar genetic sequences, they might be more closely related. However, there are still some relationships that scientists disagree on.

All of this data can be brought together on a phylogenic tree, such as the example we have below to illustrate how organisms may be related to each other.

Animal Skulls
Evolutionary Relationships Data Chart

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Directions

After trying the Animal Relatedness Challenge, see if you can rank the animals according to how closely related they are to humans. Write 3 characteristics these animals share with humans. Characteristics can include: fur, how they walk, food they eat, shape of their teeth, or where their eyes are. You can even use behavior as a characteristic. For example, is the animal nocturnal (active at night) or diurnal (active during the day)?

Animal	Characteristics	Rank
Chimpanzee		
Mandril		
Raccoon		
Gorilla		
Muskrat		
Dog		

Animal Skulls
Discovery question answer key for parents and teachers.

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After the Online Game

What made you choose which animal is more closely related to humans?

Some animals look more like us than others. They might also walk like us or eat similar foods. If you used these similar characteristics, you can infer how closely related different species are to humans.

Answers will vary based on what the scientist observes.

After looking at the phylogenic tree, do you notice similar characteristics of animals that are nearer to each other on the chart?

The phylogenic tree is based on evolutionary relationships. The data used to infer those relationships are physical traits, behavioral traits, genetics, as well as genetic information.

Answers will vary based on what the scientist observes.

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Animal Skulls
Evolutionary Relationships - Which animal is most closely related to humans?

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#1 - Chimpanzee
fur • mostly move on all fours • omnivores
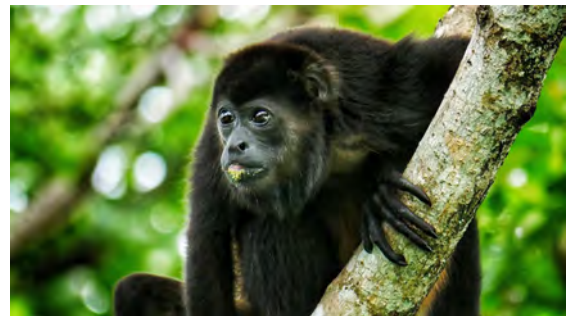live in groups • active during the day

#2 - Gorilla
fur with a hairless face • live in family groups
omnivores (eat both plants and animals)
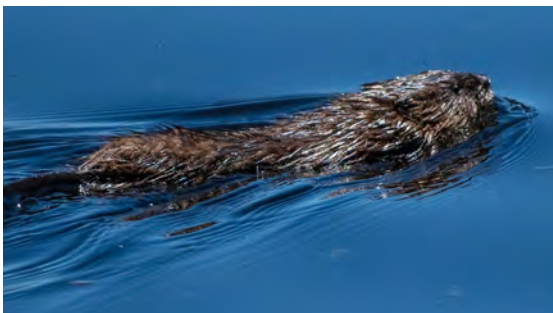active during the day

#3 - Mandrill
fur • large head and compact body
colorful face • walk on all fours • omnivores
live in groups • active during the day

#4 - Howler Monkey
fur • hooves • long slender legs • run fast
herbivore • active during the day

#5 - Muskrat
fur • live in wet areas such as swamps
and marshes • live in large families
omnivores • active at night

#6 - Dog
fur • long slender legs • run fast
carnivore • active during the day

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