

Lesson: The Gorillas of Uganda

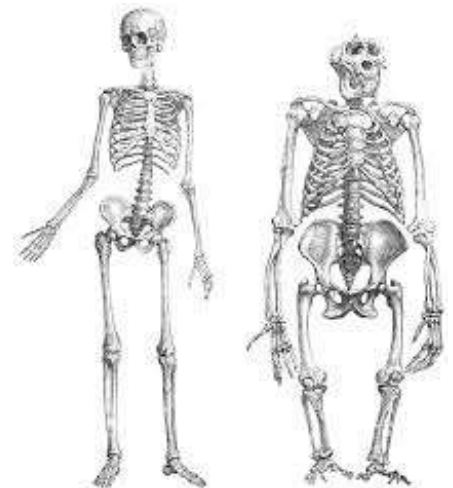
Lesson Topic: Shared Humanity

Shared Humanity

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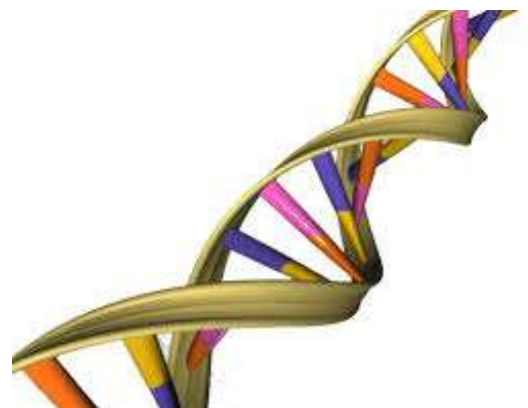
We often don't think of ourselves as animals, but we are. Humans are more similar to other animals in the wild than many people believe. After chimpanzees, gorillas are the animals that have the closest genetic code to humans.



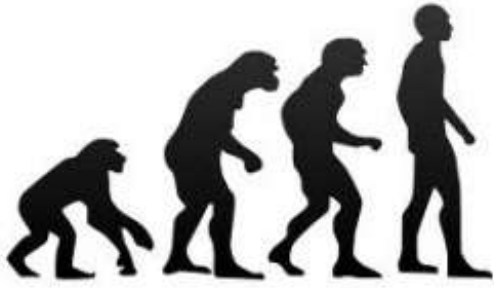
□ The human skeleton (on the left) and the gorilla skeleton (on the right) are very similar in structure.

Since Drs. Watson and Crick discovered the structure of DNA in the 1950s, scientists have been working to decode different animals' genomes. The **genome** is like a catalog of an animal's DNA, which has a genetic code, or set of instructions, to tell each cell how to develop and function.

In 2012, scientists completed the mapping of the gorilla's genome and discovered that it matches the human's genome very closely at 98.67%. This means that what makes us different from gorillas is only 1.33% of our DNA.



□ Inside of each cell in your body, there are strands of DNA. This DNA holds the instructions for how each cell should function.



Understanding the genomes of the species closest to humans tells us a lot about how we evolved. It gives us a history of when our path branched off from other primates thousands of years ago. It can tell us how we are similar and how we are different from other primates.

- It took millions of years for humans to evolve into the species we are today.



- Members of a gorilla family usually stay together throughout their lives, helping and protecting each other.

So, how are gorillas similar to humans? Gorillas and humans both have families. A gorilla family averages ten members and includes males, females, and children, just like human families. Like most human families, a gorilla's family stays together for life. They eat, sleep, play, relax, and forage for food together.

Gorillas have similar senses to humans. They see, hear, taste, smell, and feel in ways that are very close to the ways that we do. While many animals cannot see color in the same way that humans can, gorillas do have color vision to help them find the fruits and insects that they eat.

Gorillas also have hands that look a lot like human hands. Unlike most animals, their hands also have five fingers, including an opposable thumb. **Opposable thumbs** help us grip and hold things easily. Gorillas have unique palm and fingerprints just like humans do.



- A gorilla's thumb, just like a human's, helps it hold onto things and even use tools. Some gorillas have been observed using sticks for digging or even climbing steep hills.

Also just like people, gorillas have body odor. As the leader of the family, the male gorilla makes his presence known with a strong body odor, especially when he feels threatened or excited. We usually cover up our body odor with deodorants and perfumes. Most human beings don't want to smell like gorillas in the wild!



□ Male gorillas are often called silverbacks because of the gray hairs on their backs.

Even though no one has ever witnessed gorillas talking to each other in the wild, they do make sounds, such as laughing, crying, and screaming, to communicate with other gorillas. Scientists have been very interested in the ability of non-verbal animals to communicate their thoughts and emotions.

In the 1970s, scientist Francine Patterson worked with a famous gorilla named Koko. Over the years, Koko learned sign language and built a vocabulary of about 1,000 words that she used to communicate. Koko also had a pet kitten that she cared for deeply and named "All Ball." When All Ball died in a car accident, Koko expressed great sadness for the loss of her little friend and signed words like "sad," "bad," "frown," and "cry."



□ This gorilla and orangutan were raised to share a pet dog. Many scientists are interested in how primates like to care for other animals, just like people do.



- Gorillas can be very affectionate with each other, especially mother gorillas with their babies.

Koko's abilities and emotions make it abundantly clear that humans and gorillas must share the same evolutionary past. Much more importantly, she shows us that the positive traits we associate with humanity—such as affection, kindness, and generosity—run deep in our genes. They make us who we are.

Question 1:

What is not a way that gorillas communicate with one another?

- ☐ crying
- ☐ screaming
- ☐ laughing
- ☐ conversing

Question 2:

How do male gorillas make their presence known?

- ☐ through showing their genome
- ☐ through body odor
- ☐ through chest thumping
- ☐ through finger signing

Question 3:

How big was Koko's vocabulary?

- ☐ 100 words
- ☐ 1,000 words
- ☐ 10,000 words
- ☐ 100,000 words

Question 4:

What are the two main ideas of this article?

Check all that are true.

- ☐ Gorillas and humans have a shared evolutionary history.
- ☐ Gorillas and humans both show affection to their young.
- ☐ Gorillas and humans both have opposable thumbs.
- ☐ Gorillas and humans both have body odor.
- ☐ Gorillas and humans both have similar biology and behavior.

Question 5:

What is the connection between humans and animals?

- ☐ Humans are animals, even if they don't like to think of themselves that way.
- ☐ Humans are a superior life form to animals.
- ☐ Humans evolved from animals, but are no longer considered animals.
- ☐ Humans and animals have no relationship with one another.

Question 6:

What does the word **genome** mean?

- ☐ a kind of gorilla
- ☐ the thumb
- ☐ a catalog of an animal's DNA
- ☐ the evolution of man

Question 7:

Read this passage.

*Gorillas also have hands that look a lot like human hands. Unlike most animals, their hands also have five fingers, including an opposable thumb. **Opposable thumbs** help us grip and hold things easily. Gorilla hands have unique palm and fingerprints just like humans do.*

What does the word **opposable thumbs** mean?

- ☐ capable of turning 360 degrees
- ☐ capable of being removed and reattached
- ☐ capable of having palm and fingerprints
- ☐ capable of turning inward toward the other fingers

Question 8:

Read this passage.

*Understanding the genomes of the species closest to humans tells us a lot about how we evolved. It gives us a history of when our path branched off from other **primates** thousands of years ago. It can tell us how we are similar and how we are different from other primates.*

What does the word **primates** mean?

- ☐ a particular species of human
- ☐ a branch in a shared evolutionary path
- ☐ a particular species of gorilla
- ☐ an animal group that gorillas and humans both belong to

Question 9:

In discussing humans and gorillas, how is this article organized?

- ☐ genetics -> similarities -> evolution
- ☐ evolution -> similarities -> genetics
- ☐ similarities -> genetics -> evolution
- ☐ genetics -> evolution -> similarities

Question 10:

Read this passage.

Even though humans and gorillas share more than 98% of their genome, that one to two percent makes a world of difference. Humans can use complex tools, use speech, make art, plan well into the future, and the list goes on. Humans and gorillas are remarkably different, and it shows.

How does this passage compare to the article?

- ☐ The passage takes the same stance of the article but uses more neutral language.
- ☐ The passage takes on a different subject than the one the article addresses.
- ☐ The passage takes the same stance of the article but uses more emotional language.
- ☐ This passage takes the opposite stance of the article.

Question 11:

Imagine that you are writing a report on the same subject matter as this article. What source would provide you with the best research?

- ☐ a book on gorilla behavior
- ☐ a book on the human body
- ☐ a book on the evolution of non-primate species
- ☐ a book on the similarities between primates

Question 12:

How does the author support the point that gorillas and humans are very similar genetically?

- ☐ After chimpanzees, gorillas are the animals that have the closest genetic code to humans.
- ☐ Gorillas also have hands that look a lot like human hands.
- ☐ Even though no one has ever witnessed gorillas talking to each other in the wild, they do make sounds, such as laughing, crying, and screaming, to communicate with other gorillas.
- ☐ Like most human families, a gorilla's family stays together for life.

Question 13:

Read this passage from the story "The Gorillas of Uganda."

I shook his hand from my face and nodded. It was a breathtaking sight. There was one male, a light patch of silver fur on his back. He must have been about six feet tall, though it was hard to tell with him lying on the grass like that. Two babies wrestled beside him, and it looked like he was enjoying their play. The others sat in various clusters picking at one another's face and hands. It was a family enjoying the day.

How would the author of this article feel about the depiction of gorillas here?

- ☐ The author would think it's completely fictional.
- ☐ The author would think it's accurate.
- ☐ The author would think it's mostly inaccurate.
- ☐ none of the above

Correct Answers

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Question 1:

MC4

Question 2:

MC2

Question 3:

MC2

Question 4:

MC1 | MC5

Question 5:

MC1

Question 6:

MC3

Question 7:

MC4

Question 8:

MC4

Question 9:

MC4

Question 10:

MC4

Question 11:

MC4

Question 12:

MC1

Question 13:

MC2