

## LESSON 4

### I. Primates

Last meeting, we talked about some of the animals you will find in Uganda, especially the Big 5. Can you name the Big 5? (Lion, leopard, cape buffalo, elephant, and black rhinoceros). Today, we're going to focus on primates! Discussion: What do you know about primates?

The primate group contains prosimians (including lemurs, lorises, galagos and tarsiers) and simians (monkeys and apes). Most primates live in tropical or subtropical regions of the Americas, Africa and Asia. Primates range in size from the Madame Berthe's Mouse Lemur, which weighs only 30 grams (1.1 oz) to the Mountain Gorilla weighing 440 pounds! According to fossil evidence, the *ancestors* of primates may have existed around 65 million years ago. The oldest known primate existed approximately 55–58 million years ago!

Humans are primates, but not all primates have the same abilities as humans!

Considered generalist mammals, primates exhibit a wide range of characteristics. Some primates (including some great apes and baboons) do not live primarily in trees, but all species possess adaptations for climbing trees. Primates can leap from tree to tree, walk on two or four limbs, and swing between branches of trees. Primates are characterized by their large brains, relative to other mammals.

Like humans, the other primates also have the ability to perceive the depth of objects. But their ability to see in 3D comes at the expense of smell, the dominant *sensory system* in most mammals. Three-color vision has developed in some primates. Most also have opposable thumbs and some have prehensile tails that can grip tree limbs. Many species are *sexually dimorphic*, which means males and females look different, and have different body mass, canine tooth size, and coloration. Primates have slower rates of development than other similarly sized mammals, and reach maturity later but have longer lifespans. Lucky for us! Some species live in solitude, others live in male–female pairs, and others live in groups of up to hundreds of members.

There are two additional curious differences between humans and all other primates. We are the only primate species without a thick *insulating* fur over our entire bodies. This has allowed humans to cool efficiently by the evaporation of sweat when it is hot, letting us run faster. Another difference: female chimpanzees, gorillas, and other non-human primates can give birth even when they are very old.

There are several similarities that only humans and African apes share: all lack external tails and have hands with a thumb that is sufficiently separate from the other fingers to allow them precision grips. Physical differences between males and females are also similar. For example, like apes, male humans are 5-10% larger on average and have greater upper body muscular development. Like chimpanzees and bonobos, we are omnivorous. Internally, our bodies are even more similar to the great apes. Our organs and bones share the same basic layout. We share several important blood types. We also get many of the same diseases.

There is also one really fun similarity-laughter! Researchers have found that laughter is not unique to humans because even chimpanzees have been found to laugh!

One area of controversial research on primates is their ability to use language to communicate with others. Since primates do not have vocal cords like we do, sign language and computer keyboards are used in primate language research. Research has involved teaching chimpanzees, gorillas, bonobos, and orangutans to communicate with human beings and with each other using sign language and physical tokens. Primatologists argue that the primates' use of these tools indicates their ability to use "language," although some people don't think hand signals and keyboard use should be called "language."

Sadly, many primates are endangered. Deforestation affects the forest-dwelling primates. When there aren't any trees, they have nowhere to live, sleep or play. Here's another reason they're endangered: As farmers move in on forest habitats, primates feed on the crops. That makes the farmers really mad, and leads to poaching. Primate crop raiding gives locals a negative impression of primates, hurting conservation efforts. Since they reach sexual maturity later than other animals and have a longer period between births, populations have a slower recovery time after the loss of members to poaching or the pet trade. Madagascar, an island off the southeast of Africa, has experienced the greatest extinction of the recent past; since human settlement 1,500 years ago, at least eight classes and fifteen species have become extinct due to hunting and habitat destruction.

**Handout:** Connect the dots, picture of a gorilla.

## II. Vocabulary:

- Primate: *A mammal of an order that includes lemurs, monkeys, apes, and humans. Distinguished by their hands, handlike feet, and forward-facing eyes.*
- Chimpanzee: *A great ape with large ears. Native to the forests of western and central Africa.*
- Apes: *A large primate that lacks a tail, including the gorilla, chimpanzees, orangutans, and gibbons. Generally used to identify any monkey.*
- Simian: *Relating to, resembling, or affecting apes or monkeys.*
- Prehensile: *Capable of grasping*
- Humans: *Related to human being. A man, woman, or child; Distinguished by superior mental development, speech, and upright stance.*
- Baboon: *A large ground-dwelling monkey with a long snout and large teeth.*
- Species: *A group of living organisms consisting of similar individuals capable of breeding.*
- Sign language: *A language using gestures and signs.*
- Primatologist: *Someone who studies primates.*
- Endangered: *At risk or in danger of extinction*
- Poaching: *To illegally take wild plants or animals contrary to local and international conservation and wildlife management laws*

## III. Multiple Choice

1. Which of these is not a primate?
  - a. Baboon
  - b. Lion

- c. Chimpanzee
  - d. Gorilla
2. TRUE OR FALSE: Laughter is a uniquely human trait.
  3. The primate group includes:
    - a. Simians
    - b. Prosimians
    - c. A and B
    - d. None of the above.
  4. Humans and apes are:
    - a. Herbivores
    - b. Omnivores
    - c. Furry
    - d. Proud of their tails
  5. Which of the following place would you not find a primate?
    - a. Africa
    - b. Americas
    - c. Asia
    - d. Antarctica
  6. Primates are known to have:
    - a. The ability to see in 3D
    - b. An excellent sense of smell
    - c. Good breath
  7. One of the similarities between humans and apes is:
    - a. Certain blood types
    - b. A love of candy
    - c. Prehensile tails
    - d. The ability to give birth when very old
  8. Threats to primates include:
    - a. Deforestation
    - b. Habitat destruction
    - c. Poaching
    - d. All of the above
  9. Primates have:
    - a. Long lifespans
    - b. Opposable thumbs
    - c. Slower rates of development
    - d. All of the above
  10. TRUE or FALSE: All primates live primarily in trees.

#### **IV. Activity**

Game: Instructions and questions for “Around the World.” All of the answers will be either “humans,” “chimpanzees,” or “gorillas”. The students are paired against one another, and whoever answers the question correctly moves on to challenge the next student.

1. Bonobos are a type of what?

- A: Chimp
2. What kind of primate can live longer in captivity than in the wild?  
A: Chimp
  3. Which primates do not practice “knuckle-walking”?  
A. Humans
  4. These are the largest of the living primates.  
A. Gorillas
  5. Which primate is the closest relative to humans?  
A: Gorillas
  6. This type of primate only has one blood type, type B.  
A: Gorillas
  7. There are over 6 billion of these types of primates.  
A. Humans
  8. These primates have the biggest brains.  
A. Humans
  9. This group is bipedal, which means they walk on two feet.  
A. Humans
  10. These sleep 7-9 hours a day.  
A. Humans
  11. Some of these grow patches of silver hair after they turn 12.  
A. Gorillas
  12. These have the highest frequency laughter.  
A. Chimps
  13. These range from 88-143 lbs when full grown.  
A. Chimps
  14. Which of the three groups are the best climbers?  
A. Chimps
  15. These eat insects, but never meat.  
A. Gorillas
  16. These are sometimes called Homo sapiens.  
A. Humans
  17. This females of this species become sterile (unable to produce babies) in old age.  
A. Humans
  18. These often eat monkeys.  
A. Chimps
  19. These eat more vegetables in the winter.  
A. Gorillas
  20. These animals most often sleep in trees.  
A. Chimps
  21. These are the fastest runners.  
A. Humans
  22. This group never lives in a Matriarchy, where a woman is in charge.  
A. Gorillas.
  23. These are the most aggressive of the three groups.  
A. Chimps
  24. These would not throw things at an enemy.

- A. Gorillas.
25. Their leaders are sometimes called Prime Ministers.  
A. Humans
26. These are the least playful of the three groups.  
A. Gorillas
27. These use only simple tools.  
A. Chimps.
28. These use complicated tools.  
A. Humans
29. This kind of creature does not have an opposable toe.  
A. Human
30. These used to be kept as pets.  
A. Chimps.
31. This group has 6,000 languages in use.  
A. Humans
32. This is the only group that has not been launched into outer space.  
A. Gorilla
33. This group is named after a hairy woman in Greek.  
A. Gorilla
34. This group can be the darkest of all primates.  
A. Gorilla
35. This group is not endangered.  
A. Humans
36. Which group never has hairy chests?  
A. Gorilla
37. These always spend the day travelling in small groups.  
A. Chimps
38. These have the most limited habitat.  
A. Gorillas
39. These each have their own distinctive call.  
A. Chimps
40. These often have young that remain dependent until 18 years old.  
A. Humans

## **V. Activity**

Gorilla word search

Gorilla

Nest

Wrestle

Primate

Monkey

Mountain

Africa

Ape

Human

Groom  
Thumb  
Infant  
Tree  
Laugh