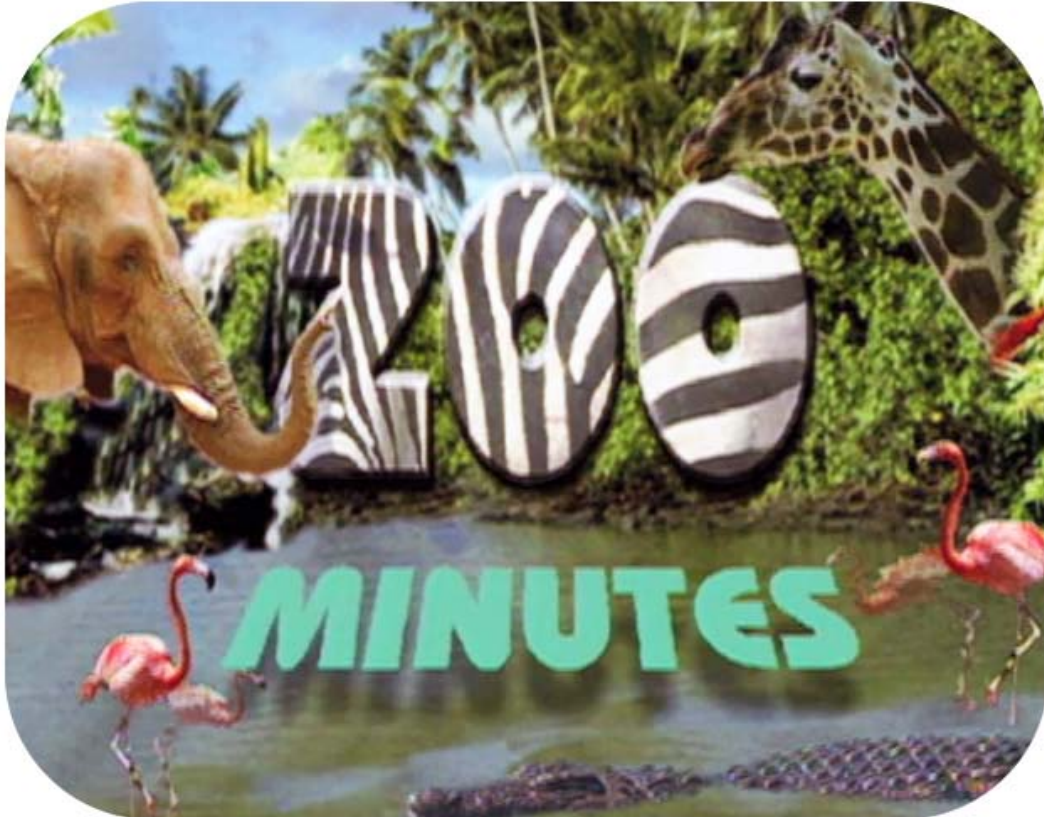




Zoo Minutes



Teacher's Guide



Zoo Minutes Teacher's Guide

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About Zoo Minutes

Footage from the world renowned Riverbanks Zoo and Gardens is utilized in each segment with an opening that points out habitat and scientific name. These segments are perfect for any school news program, and they are suitable for all ages. From tigers to tortoise, ostrich to slippery snake, facts about these fascinating creatures are explored in Zoo Minutes.

Suggestions for Use: Since these short segments are all approximately one minute in duration, they are excellent to include in your school news programs. Teachers may also use them as lesson "triggers" to stimulate discussion and to supplement curriculum objectives

South Carolina Science Standards

Note to Teacher: The following 2014 South Carolina Science Standards have been correlated to the content of these videos. However, this program is appropriate for grades K-12 and can be used in many ways in the classroom. The addition of supplementary, teacher-led activities may cover the Strand II: Life Science section of the Science Standards more thoroughly.

Kindergarten

Standard K.S.1: The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content.

Students who demonstrate this understanding can:

K.S.1A.1 Ask and answer questions about the natural world using explorations, observations, or structured investigations.

K.S.1A.8 Obtain and evaluate informational texts, observations, data collected, or discussions to (1) generate and answer questions about the natural world, (2) understand phenomena, (3) develop models, or (4) support explanations. Communicate



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observations and explanations using oral and written language.

2nd Grade

Standard 2.L.5: The student will demonstrate an understanding of how the structures of animals help them survive and grow in their environments

Students who demonstrate this understanding can:

2.L.5B.1 Obtain and communicate information to describe and compare how animals interact with other animals and plants in the environment.

2.L.5B.2 Develop and use models to exemplify characteristics of animals that help them survive in distinct environments (such as salt and freshwater, deserts, forests, wetlands, or polar lands).

2.L.5B.3 Analyze and interpret data from observations to describe how animals respond to changes in their environment (such as changes in food availability, water, or air).

2.L.5B.4 Construct scientific arguments to explain how animals can change their environments (such as the shape of the land or the flow of water).

3rd Grade

Standard 3.L.5: The student will demonstrate an understanding of how the characteristics and changes in environments and habitats affect the diversity of organisms.

Students who demonstrate this understanding can:

3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.



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3.L.5A.2 Develop and use a food chain model to classify organisms as producers, consumers, and decomposers and to describe how organisms obtain energy.

4th Grade

Standard 4.L.5 The student will demonstrate an understanding of how the structural characteristics and traits of plants and animals allow them to survive, grow, and reproduce.

Students who demonstrate this understanding can:

4.L.5A.1 Obtain and communicate information about the characteristics of plants and animals to develop models which classify plants as flowering or nonflowering and animals as vertebrate or invertebrate.

4.L.5A.3 Develop and use models to compare the stages of growth and development in various animals.

4.L.5A.4 Construct scientific arguments to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment.

4.L.5B.1 Develop and use models to compare how humans and other animals use their senses and sensory organs to detect and respond to signals from the environment.

4.L.5B.3 Construct explanations for how structural adaptations (such as methods for defense, locomotion, obtaining resources, or camouflage) allow animals to survive in the environment.



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5th Grade

Standard 5.L.4: The student will demonstrate an understanding of relationships among biotic and abiotic factors within terrestrial and aquatic ecosystems.

Students who demonstrate this understanding can:

5.L.4B.1 Analyze and interpret data to explain how organisms obtain their energy and classify an organisms as producers, consumers (including herbivore, carnivore, and omnivore), or decomposers (such as fungi and bacteria).

5.L.4B.2 Develop and use models of food chains and food webs to describe the flow of energy in an ecosystem.

5.L.4B.3 Construct explanations for how organisms interact with each other in an ecosystem (including predators and prey, and parasites and hosts).

5.L.4B.4 Construct scientific arguments to explain how limiting factors (including food, water, space, and shelter) or a newly introduced organism can affect an ecosystem.

6th Grade

Standard 6.L.4: The student will demonstrate an understanding of how scientists classify organisms and how the structures, processes, behaviors, and adaptations of animals allow them to survive

6.L.4A.1 Obtain and communicate information to support claims that living organisms (1) obtain and use resources for energy, (2) respond to stimuli, (3) reproduce, and (4) grow and develop

6.L.4A.2 Develop and use models to classify organisms based on the current hierarchical taxonomic structure (including the kingdoms of protists, plants, fungi, and animals).



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6.L.4B.1 Analyze and interpret data related to the diversity of animals to support claims that all animals (vertebrates and invertebrates) share common characteristics.

6.L.4B.2 Obtain and communicate information to explain how the structural adaptations and processes of animals allow for defense, movement, or resource obtainment.

6.L.4B.3 Construct explanations of how animal responses (including hibernation, migration, grouping, and courtship) to environmental stimuli allow them to survive and reproduce.

6.L.4B.4 Obtain and communicate information to compare and classify innate and learned behaviors in animals.



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Video Descriptions

Note: Time duration is listed as (HH:MM:SS)

1. [African Elephant](#) (00:01:27)

The largest living land animals are the African elephants. Males can weigh up to 13,000 pounds and reach shoulder heights of 10 to 13 feet. These animals are very strong and highly intelligent, and they are usually a dull brownish-gray. The size and shape of their ears distinguish them from Asian elephants. The ears of an African elephant are larger than an Asian elephant, and their ears also look like the continent of Africa. However, this animal is listed as threatened as a result of loss of habitat and poaching.

2. [African Lion](#) (00:01:21)

This segment explores the largest and most powerful of the African carnivores, the African lions. Male lions are known for their tawny manes, which eventually grow darker with age. Lionesses do not have manes. Lions currently live in fragmented populations in western, northeastern, and southern Africa.

3. [African Penguin](#) (00:01:27)

An adult African penguin is approximately 27 inches tall, and it weighs 7 to 8 pounds. This penguin is located along offshore islands and occasionally on the mainland of southeast South Africa, and on the South African west coast. Unfortunately, this species is listed as vulnerable due to commercialized eggging in the 18th and 19th centuries, man's over-fishing, and oil pollution.



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4. [Amur Tiger](#) (00:01:26)

The largest living cat is the Amur, or Siberian, tiger. These cats are known for their orange and white fur with its black stripes. This pattern camouflages them in the tall grasses or forest undergrowth. Their diet consists of deer, pigs, antelope, buffalo and a variety of small mammals and birds. Amur tigers are found through eastern Russia, Manchuria and Korea. Unfortunately, these cats are listed as endangered due to poaching and habitat destruction.

5. [Arowana](#) (00:01:26)

This segment examines the long, carnivorous fish known as the arowana. These fish are found in the black-water rivers of the Amazon basin. This type of fish is known for its unique ability to jump. Jumps of eight feet are not unusual for the arowana. Their jumping ability allows them to jump up and capture insects and even small birds off of tree branches.

6. [Barn Owl](#) (00:01:25)

Barn owls are medium-sized owls that are found throughout the world. They have an average wingspan of 30 inches, and they feast on small rodents and birds. They are also known to eat bats, frogs, fish and insects. These owls are nocturnal and hunt more by sound than by sight. Their ears play an important role in the functioning of this owl.

7. [Bateleur Eagle](#) (00:01:28)

The Bateleur eagle is a medium-sized bird that is about 2 feet in height, and it is mostly black with a brown triangular pattern on their back. This eagle is found throughout Africa and extending to Arabia. Their diet consists of several small animals ranging from mice to small antelope, including other birds, and large monitor lizards. Both the male and female



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take responsibility for incubating the egg.

8. [Black Rhinoceros](#) (00:01:27)

The black rhinos are located throughout eastern and southern Africa and from northeastern Sudan to as far west as northeastern Nigeria. This rhino is actually gray in color, and it weighs about 2,500 pounds and stands between 5 and 6 feet tall at the shoulder. These animals are usually found resting in muddy water during the hottest part of the day because they have no sweat glands. Unfortunately, this animal is becoming scarce because of the poaching for its horn.

9. [California Sea Lion](#) (00:01:26)

The California sea lion is classified as a type of Pinnipedia. Seals and walruses are other types of Pinnipeds. These carnivorous animals usually eat a variety of fishes, small crustaceans and cephalopods like squid. These animals are found all over the world, and the California sea lions are located off the shores of California and Mexico.

10. [Caribbean Flamingo](#) (00:01:27)

The Caribbean flamingo is the most brightly colored flamingo out of the 6 flamingo species. Flamingos are known for their long legs and neck, and they are usually 3-4 feet tall. They have an unusual shaped beak that is useful for feeding on plankton, tiny fish, and small crustaceans. The color of the flamingo actually depends on the type of food eaten. For example, Caribbean flamingos tend to be far paler in the wild than birds in zoological collections, since they feed on high quality, specially manufactured zoo.

11. [Crocodile Monitor](#) (00:01:26)

The crocodile monitor is only found in the tropical forests of New Guinea.



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They are known for their elongated toes, strongly curved sharp claws, rubbery pads on the bottom of their feet, and an extremely long tail. This creature has been known to feast on vertebrate prey such as birds and arboreal mammals.

12. [Diamondback Rattlesnake](#) (00:01:25)

The largest of the rattlesnakes is the eastern diamondback. This snake is one of the largest venomous snakes in the world, and it is capable of reaching lengths of more than 8 feet and can weigh up to 30 pounds. Eastern diamondbacks are normally found in the coastal lowlands and long-leaf pine forests from North Carolina to the Florida Keys and west to Louisiana.

13. [East African Crowned Crane](#) (00:01:25)

In this segment, the East African crowned crane is examined. This bird normally lives anywhere south of the Sahara to the southeastern tip of South Africa. These unique birds learn dances from their parents when they are young. These dances are used in courtship, and the dance consists of bowing, flaring of wings, and leaping into the air.

14. [Galapagos Tortoise](#) (00:01:25)

This segment explores the largest species of the tortoises, the Galapagos tortoise. This tortoise can weigh up to 900 pounds. Sailors that visited the Galapagos Islands in the 17th century originally discovered these tortoises. The tortoises vary from island to island.

15. [Giraffe](#) (00:01:24)

This segment explores the tallest living animal, the giraffe. This animal can reach up to 20 feet tall. They also have 18-inch tongues that they use to



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pull leaves off the thorny acacia tree. Giraffes are historically found throughout the open spaces of Africa. These large animals are about 6 feet at birth, and they each have their own unique pattern of spots.

16. [Grant's Zebra](#) (00:01:26)

Zebras are known for their mostly vertical black and white striped coat. Their patterns of stripes are as individual as a human fingerprint. This species is closely related to the horse and the donkey. These unique animals usually live in small family groups of four to nine animals, and a single stallion leads them. When males are not leading a family group, then they form bachelor groups until they can establish their own herd. Zebras are widespread throughout Africa.

17. [Jersey Cow](#) (00:01:20)

Jersey Cows are famous for the high butterfat content of their milk. This breed is small, and this breed was originally developed on the Channel Islands off the northwest coast of France. The average female weighs about 1,100 pounds, and the average male weighs about 1,650 pounds. This unique breed of cattle has been carefully protected from outside influence.

18. [King Cobra](#) (00:01:21)

According to this segment, the king cobra is the largest of all venomous snakes, and it is potentially one of the most deadly snakes. This snake is known as the only snake to construct a nest. This segment gives several interesting facts about this feared creature.

19. [Moon Jelly](#) (00:01:24)

The moon jelly is an invertebrate because it does not possess a backbone.



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These animals are often referred to as jellyfish, but they are not fish. They are found in all of the oceans except the Arctic. Their two main predators are sea turtles and sharks. Fortunately for humans, the stinging cells of moons are not powerful enough to penetrate human skin.

20. [Nile Hippopotamus](#) (00:01:25)

This segment examines the life of a common (Nile) hippopotamus. This amazing animal is the second-largest land mammal, and it can weigh up to 8,000 pounds. This animal spends much of its time in the water, and it can stay submerged for up to 20 minutes under water. This animal originates throughout Africa and south of the Sahara.

21. [Nubian Goat](#) (00:01:27)

Nubian goats are the most popular of the six officially recognized breeds of dairy goats raised in the United States. Their high, rounded faces, variable coloration and pattern, their short slick coat, and long floppy ears easily distinguish Nubians. Because their milk has higher butterfat content than other dairy goat breeds, Nubian goats are the preferred breeds. In fact, Nubian goats are also the largest desert breeds. Nubian goats are a domesticated breed; therefore, they do not exist in the wild.

22. [Ostrich](#) (00:01:26)

The Ostrich is the largest living bird, and it can stand 8 feet and weigh up to 345 pounds. This bird is flightless, but it is able to run at speeds of 50 miles per hour. This is also the only living bird with just two toes. This segment explores the life of this South African native.

23. [Polar Bear](#) (00:01:19)

One of the largest land carnivores on the earth can be found around the



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coasts, islands and floating ice of the Arctic regions of the world. This animal is known as the polar bear. Although their cubs weigh only two pounds at birth, males grow up to weigh about 880 pounds, and the females can weigh up to 550 pounds. This animal is known for its white fur and black skin, and polar bears are also the only true marine bear. In fact, their bodies are longer than other bears, which make them streamlined for swimming.

24. [Reticulated Python](#) (00:01:26)

One of the largest snakes in the world is the reticulated python. Lengths of up to 32 feet have been documented for this large snake. These large snakes also eat large animals such as deer, wild boar, goats and even leopards. Their natural habitat is found in Southeast Asia, but this snake is considered rare and even endangered in some areas because of the destruction of their habitat such as deforestation.

25. [Siamang](#) (00:01:25)

The largest species of the gibbon family in the forests of Sumatra and Malaysia is the siamang. The siamangs are excellent swingers due to their arm spread of 5 feet. According to this segment, these animals live in monogamous family groups, and the male and female are bonded for life. Siamangs are also known for their duet song that is used to mark their territory.

26. [Toco Toucan](#) (00:01:26)

The toco toucans are medium-sized birds that are known for their beaks. Their beaks are very lightweight, and they have a honeycombed structure that is covered with a protective layer. These powerful beaks are up to 9 inches in the male, and slightly shorter in the female. These beautiful birds



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can be found throughout northern South America.

27. [Tomistoma or False Gharial Crocodile](#) (00:01:27)

One of the most unusual and little known of the crocodylians is the false gharial, more accurately known as the tomistoma. This species is known for its narrow snout that is used for catching fish, but fish are not the only thing the tomistoma eats. It also feeds on monkeys to a great extent. This endangered species is restricted to the islands of Sumatra, Borneo and other areas of Indonesia and Malaysia.

28. [Warthog](#) (00:01:16)

The fascinating world of the warthog is explored during this segment. The warthog is famous for its large facial warts. This species is the smallest of the true swine, and warthogs have a much larger heads than other pigs. Warthogs originally inhabit Central to Southern Africa.



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