

AFRICAN SAVANNA ELEPHANT

TASK #1

ANIMAL RESEARCH

Climate	<ul style="list-style-type: none"> • Distinct dry and wet seasons • Hot, averaging 60°-90°F during the day • Water can be hard to find at times
What covers their body? How is this helpful?	<ul style="list-style-type: none"> • Thick, wrinkled, gray skin that's covered in papillae, or tiny hairs, that help elephants regulate their body temperature and protects their skin • Sparse body hair • Folds and wrinkles in skin help elephants keep cool by retaining water
Social Dynamic	<ul style="list-style-type: none"> • Groups are led by the most dominant female (matriarch) • Groups include the most dominant female, her daughters, and their calves • Family units range in size from 3 to 25 • Adult males usually live by themselves but may form bonds with other single males
Appearance	<ul style="list-style-type: none"> • Large ears resemble the continent of Africa and help dissipate excess heat • Long trunks help to grip objects and food • Tusks are incisor teeth and grow their entire lives • Height: 8-13 ft./Weight: 8,000-14,000 lbs. • Males are larger than females
How do they move? How would that help them in their habitat?	<ul style="list-style-type: none"> • Elephants can walk and migrate several miles a day • Elephants walk on tiptoes and their weight is distributed across their wide feet • Soft padding helps them walk quietly and prevents them from slipping
How do they care for their young?	<ul style="list-style-type: none"> • Young elephants (calves) are protected by the entire family unit • Adult females help with calf movements, foraging, protection, and social experiences • Calves nurse for the first few years of their life • Calves learn vital survival skills like identifying edible plants, navigating the environment, and social interactions by observing and imitating older females
What do they eat? What adaptations do they have to support their diet?	<ul style="list-style-type: none"> • Elephants are herbivores • Elephants are grazers, consuming a large quantity of grasses, leaves, bark, fruits, roots, and herbs • Elephant trunks are prehensile, meaning they can grab things with it
Habitat	<ul style="list-style-type: none"> • Savanna • Forest • Deserts • Grassland



TASK #2

AFRICAN SAVANNA ELEPHANT NEEDS IN A ZOO

After learning about what African elephants need in the wild, students are prompted to write things that African elephants would need in a zoo. Below are suggested answers but students are encouraged to be creative.

- Temperature controlled housing that can be heated or cooled
- Tree logs that can be moved or pushed around
- Pool deep enough that an elephant can be fully submerged
- Sprinklers or hoses to create mud pits
- Enough space to comfortably keep a family or house multiple groups (for example, housing males and females separately)
- Trees or grasses
- Tall pillars where enrichment can be hung
- Shade source
- Space for daily physical exercise/walking

AFRICAN SAVANNA ELEPHANT ENRICHMENT

Suggested Enrichment:

- **Environmental Enrichment-** Varying water features (streams, pools, waterfalls, sprinklers/misters), substrates (soil, sand, clay, sawdust), poles or logs to hang enrichment from, large rocks or fake termite mounds (for scratching)
- **Food Enrichment-** Presenting food in a new way or during different times (scatter feeding, frozen treats, puzzle feeders, hay nets)
- **Manipulative Enrichment-** Large tires, street sweeper brushes, boomer balls, metal kegs, large plastic barrels, bowling balls, cardboard boxes
- **Social Enrichment-** Interaction with other elephants and the animal care team through training new behaviors, and painting

Things to avoid:

- Continuous use of the same form of enrichment
- Regardless of size, many items still need to be affixed into position to reduce the likelihood of them ending up in staff or public areas or damaging habitat barriers
- Small tires or chain/rope loops that could get stuck on the elephants' feet
- Small enrichment or small pieces that could be ingested (string, screws, soft plastics)



TASK #3

AFRICAN SAVANNA ELEPHANT CONSERVATION STATUS

Conservation Status: African savanna elephants are listed as an Endangered Species by the IUCN.

Countries found: The largest populations of African savanna elephants are found in Botswana, Zimbabwe, Tanzania, Kenya, Namibia, Zambia, and South Africa.

Has the animal's range changed over time? Yes, it has decreased. African savanna elephants once roamed nearly all of Africa.

Did your animal's population change? Yes, it has decreased.

Threats: Poaching and habitat loss are the main threats contributing to the African savanna elephant's population decline.



HISTORICAL RANGE



CURRENT RANGE

HISTORICAL / CURRENT RANGE: The range of African savanna elephants has greatly decreased over the decades, primarily due to poaching and habitat loss.



TASK #4

AFRICAN SAVANNA ELEPHANT DIET

As the world's largest land animal, elephants have a big mouth to feed! Elephants are herbivores and on the African savanna they spend their time eating all sorts of vegetation like trees, leaves, branches, shrubs, and grasses. At the Zoo, our elephants have unlimited access to hay to eat throughout the day. Additionally, they receive a specially formulated grain and browse. For enrichment, they get fruits and vegetables like watermelon, celery, apples, sweet potatoes, carrots, and more. Your students have a big job ahead of them planning the diets for a whole herd of elephants at their zoo!

EXTENSION ACTIVITY

Students can use the extension on page 40 to create a diet plan for an entire week, and answer some questions about how adding elephants to the herd would change their plan.

TASK #5

HABITAT DESIGN

Students are encouraged to design a zoo habitat that satisfies the natural behaviors of elephants. Below are a few suggestions.

Natural Behaviors: Browsing, walking, exploring, wallowing, swimming, mud/dust bathing, socializing with other elephants, rubbing/itching

- African savanna elephant zoo habitats should have ample amounts of space and various environmental features to meet their physical and mental needs. Elephants are a social species and herds often exhibit natural behaviors together, such as feeding, drinking, walking, resting, and wallowing.
- AZA recommends that outdoor spaces for elephants should be at least 5,400 sq. ft. per elephant.
- Outdoor areas should encourage locomotion for exercise and natural foot health.
- Rocks, tree stumps, or large sturdy objects must be provided for rubbing and scratching.
- Both wet and dry wallows assist with skin care and protection against the sun and biting insects. Soft dirt or sand can also promote dust baths.
- A variety of water sources can be included, such as drinking devices, pools, waterfalls, misters, sprinklers, or wallows.
- Indoor spaces should be made available for each individual elephant. Males need at least 600 sq. ft. and females need at least 400 sq. ft.
- Barriers (i.e. fences) should be no shorter than 8 ft. Recommended materials for barriers include solid concrete, vertical rock walls or horizontal steel rails, pipe, or cable.

African Savannah Elephant Diet Extension Activity



When planning the diets for the elephants, remember the following:

- Elephants are fed grain each day. The total daily amount for each elephant is about 4,000 g.
- Elephants get browse items weekly.
- Elephants also get a variety of fruits and vegetables each week for enrichment.

	Elephant 1	Elephant 2	Elephant 3	Elephant 4	Elephant 5	Elephant 6	Elephant 7	Weekly
Morning Feeding	2,000 g	2,525 g		1,750 g		1,050 g		
Evening Feeding			1,325 g		1,200 g		2,250 g	
Daily Totals	3,900 g	4,150 g	3,800 g	4,100 g	3,950 g	4,150 g	4,000 g	

Two elephants have been added to the herd. How does this change how much grain you need?

How much grain would you need for the morning feed?

How much grain would you need for the evening feed?

Animal Care staff have confirmed that Elephant 4 is pregnant. Pregnant elephants need 300 g more at each feeding. What are the new totals for Elephant 4's Morning Feeding, Evening Feeding, and Daily Total?