NALEDI

ONE LITTLE ELEPHANT

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CLASSROOM ACTIVITIES FOR EVERY ELEPHANT COUNTS CONTEST

NALEDI: ONE LITTLE ELEPHANT - CLASSROOM ACTIVITIES

INTRODUCTION

Naledi is an African elephant. Her name means 'star' in Setswana because she was born on a very starry night in Botswana. Her mother died when she was just 6 weeks old. A dedicated team of people had to step in to give her comfort and save her life. Her story presents the issues affecting survival her species and the actions people are taking to save her species and the ecosystem that is her home. Naledi's story is intended to help educate and enlist global leaders, consumers and citizens in the efforts to save her species, one of Earth's most noble and intelligent animals. Elephants are amazing creatures! To learn more about them and how you can help, go to www.everyelephantcountscontest.org.

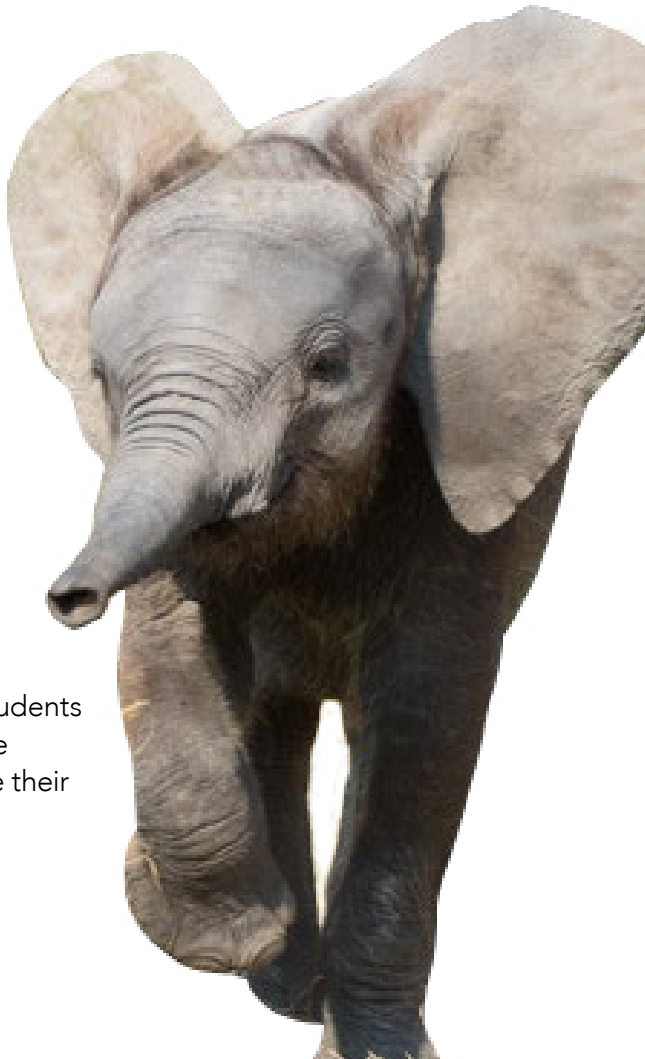
Another storyline in the film is the gathering of data for the 2016 Great Elephant Census run by Dr. Mike Chase at Abu Camp. Its aim was to count every elephant in Africa to help ensure their long-term survival. Dr. Chase estimates we're losing 96 elephants a day and between 25,000 and 30,000 annually. The results of the Census, published last year, revealed that 30 percent of Africa's elephants had been lost since 2007. African elephants are a keystone species and play an essential role in Africa's forests and savannas. To learn more about the largest wildlife census and what it will take to create a sustainable elephant population, go to www.greatelephantcensus.com.

LESSON SUMMARY

The following lessons provide research, reflective, and persuasive writing opportunities for students. Each activity and writing prompt provided will help students build their knowledge of African elephants and think critically about the issues affecting their survival. The activities correspond to the events in Naledi's real life story and represent the issues affecting her species:

- loss of habitat,
- poaching and wildlife trafficking,
- climate change, and
- human population.

By doing the activities in the classroom or as part of a club project, students will be better prepared to describe their understanding of the science and human dimensions affecting African elephants and communicate their conclusions and solutions by entering the Every Elephant Counts Contest!





NALEDI: ONE LITTLE ELEPHANT - CLASSROOM ACTIVITIES

LEARNING OBJECTIVES

STUDENTS WILL:

- Record and discuss prior knowledge and perceptions of the African continent.
- Identify Africa and the Okavango Delta in Botswana and some of its key geographic features.
- Define the concepts of habitat, ecosystems, and limiting factors and apply these concepts to African elephants
- Describe the traits and adaptations of African elephants.
- Understand how humans affect ecosystem degradation and species extinction .
- Be introduced to the laws and treaties to protect biodiversity and species from extinction.

TIME NEEDED: 1 to 2 classroom periods or 1 after school gathering.

MATERIALS:

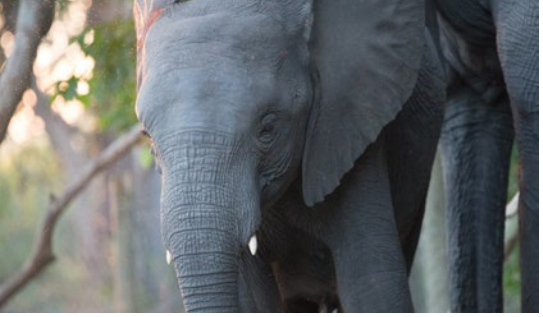
WEBSITES:

www.everyelephantcountscontest.org • www.greatelephantcensus.com • www.pbs.org/wnet/nature/naledi-one-little-elephant/15445

- Science notebook • Internet access for independent research • Possible art supplies

PART 1. - WHERE IN THE WORLD IS OKAVANGO DELTA?

BACKGROUND: African elephants are only found on the continent of Africa. Naledi lives in Botswana, Africa in the Okavango Delta. Where is that exactly? The Okavango Delta region lies in the northern part of Botswana, at approximately 19 degrees South (latitude) and 23 degrees East (longitude). Latitude and longitude are imaginary lines on a map or globe that help us describe the location of any place on Earth. Latitude lines measure the distance north or south of the Equator. Longitude lines measure the distance east and west of the prime meridian. Both are measured in terms of the 360 degrees of a circle. The Okavango Delta is in close proximity to the equator, making the region mostly temperate with very hot summers. A river delta usually leads to the open sea. But in Botswana, the Okavango



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River empties into open land and floods the savannah. The Okavango Delta is produced by seasonal flooding when summer rains flood an area 16,000km2 over four months before drying again during winter months. Signs of climate change are evident here, with extended periods of drought becoming more common and impacting the wildlife and people that rely on the region to survive.

WHAT YOU DO: This activity can be easily adapted for varying grade levels. Whether you provide a printed map, a globe in the classroom or ask students to search for a map on the internet, start by telling students that today they are going to learn about a special place where African elephants live.

Have class discussion or ask students to write brief responses in their science notebook to the following questions: What do you know about African elephants? Where do they live? What do you think are some characteristics of the places that support African elephant herds? What is the climate? Vegetation? Water? People? Other considerations?

Now if possible show this video video.nationalgeographic.com/video/botswana_okavangodelta

After the discussion have students locate the Okavango Delta on a map and have them work individually or in groups to write a paragraph or make an infographic that explains where the location is in relationship to where they live? What is the climate? What animals beside African elephants live there? What is the human population? Once students turn in their paragraphs, lead a discussion comparing their initial knowledge about Botswana with their current knowledge.

ADAPTATIONS: More activities and worksheets for younger students may be found here www.climateclassroomkids.org.

For older students, the story of African elephants is a powerful case study for teaching key biological concepts and science practices, for more in-depth investigations go to www.hhmi.org/biointeractive/elephants

USEFUL LINKS: Photos of the Okavango Delta can be found at www.climateclassroomkids.org/photo-galleries.

Maps of Africa and the census data can be found here www.greatelephantcensus.com/map-updates.



PART II - RESEARCH AND WRITING EXERCISES RELATED TO THE TOPICS INTRODUCED IN NALEDI: ONE LITTLE ELEPHANT

Try to watch ***Naledi: One Little Elephant***, a NATURE special presentation, and/or the videos provided on our website together as a class or group. Use the following background information which corresponds to biggest challenges facing African elephants today to guide your discussion. The corresponding questions are research and writing prompts to be assigned as individual or group papers and presentations.

A. HABITAT LOSS AND POPULATION

BACKGROUND

African elephants play a huge role in the ecosystem. They are keystone species and the foundation for maintaining biodiversity. During the dry seasons, they use their tusks to dig for water. This allows them as well as other animals, to survive in the harsh climate. African forest elephants also create gaps in the vegetation when they eat, which allows new plants to grow and creates pathways for other small animals to use. They are also one of the major ways the trees disperse their seeds. When elephants graze on the plants they intake a lot of seeds. When they poop, many seeds get dispersed around the Savannah which will allows many plants and trees to grow, boosting the health of the ecosystem.

1. What is an African elephant's habitat? What do they need to SUCCESSFULLY survive in the wild?
2. Investigate how land cover has changed over time, urbanization, population growth, causing loss of habitat for elephants.
3. How does a reduction in elephant populations impact other species in the food chain/web?

TERMS TO KNOW:

HABITAT – A place that provides a species with everything it needs for survival. The four requirements of habitat are 1) food, 2) water, 3) cover and 4) space – including places to raise young.

COVER – Shelter to hide an animal from predators or to protect an animal from cold, hot, wet, or dry conditions.

LIMITING FACTOR – Something required by an animal to survive. If it is not present, the animal cannot survive or reproduce. For example, African elephants need a lot of undeveloped space to live in herds and raise their young.

ECOSYSTEM - A community of living organizing and nonliving components, interacting.

B. POACHING AND WILDLIFE TRAFFICKING

NOTE: The online research aspect of this issue can be difficult and disturbing, especially for some younger students. For younger students, it may be best to cover this issue in the classroom and high school students would findonline searches more age appropriate.

1. What is poaching? (How is it different than legal hunting?) What is wildlife trafficking?
2. Why are each a problem? What are the economic, societal and/or environmental impacts related to poaching and wildlife trafficking?
3. Look up the current policies, laws and initiatives in place to help protect African elephants?

The Endangered Species Act of 1973 (ESA; 16 U.S.C. § 1531 et seq.) is one of the few dozens of United States environmental laws passed in the 1970s, and serves as the law to carry out the provisions outlined in The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - a 175-nation agreement designed to prevent species from becoming endangered or extinct due to international trade.

C. CLIMATE CHANGE

1. What is a savanna - who lives in a savanna?
2. Investigate how temperature and precipitation patterns have changed on the African savanna.
3. How do changes in temperature and precipitation directly impact elephant populations?
4. How does drought affect people and wildlife in the eco-system?

MORE HELPFUL LINKS:
Get the comprehensive assessment of the conservation status of the African elephant and the world's 5,488 mammals. Go to www.iucnredlist.org.
To learn about current laws to protect endangered species and prevent wildlife trafficking www.fws.gov/international/wildlife-trafficking/index.html.

PART III - TAKE ACTION

Conclude these discussions and activities by inviting students to reflect on Naledi's story and encourage them to build on their new knowledge of the issues affecting African elephants by taking action. Post or handout Elephant Fun Facts as inspiration for student projects. Consider the following:

- What is your connection to African elephants, even though they are thousands of miles away from where you live?
- You can organize a special screening event at your school and invite students and parents to discuss the issues.
- Create a brochure or a series of informational posters as a class to educate others.
- Write a blog and use social media to help conservation efforts by including @nwf and #everyelephant in your posts.

WRITE A LETTER to your local or federal representatives in support of a strong Endangered Species Act and anti-wildlife trafficking enforcement at every level.

Share your one big idea to help save African elephants. Your best idea could be a new study, a new technology, awareness campaign or maybe even a great question that we should be asking about elephants! So take some time, review our website and other listed throughout the guide and develop your biggest idea to save African elephants and enter the contest!

ELEPHANT FUN FACTS

DID YOU KNOW?

AFRICAN ELEPHANTS ARE THE LARGEST LAND MAMMALS ON THE PLANET.

- At birth, an elephant calf weighs about 230 lbs!
- An adult elephant can weigh from 4,000 lbs up to 13,000 lbs!

DID YOU KNOW?

AFRICAN ELEPHANTS HAVE A GREAT SENSE OF SMELL - BETTER THAN A DOGS!

- Elephants use their sensitive trunks to constantly sniff and touch the world around them.
- The tip of an elephant's trunk is much more sensitive than the tips of your fingers.

DID YOU KNOW?

ELEPHANTS ARE BIG TALKERS!

- Elephants use dozens of different sounds to communicate with each other.
- Elephants can purr as means to communicate, just like cats do. Listen to the audio here.
- Some of these sounds are too low to be heard by human ears.
- The low sounds travel long distances, so elephants can hear each other, even when the herd is spread out.
- Elephants can also use their feet to listen.
- Elephant herds can set off vibrations in the ground when they move, so elephants far away can pick up these vibrations through their feet. This helps them keep track of each other.

DID YOU KNOW?

ELEPHANTS ARE VERY EXPRESSIVE CREATURES!

- Elephants can display annoyance, anger, and fear by flapping their ears and spreading them wide, lowering their trunks, and kicking up dust.

DID YOU KNOW?

THERE ARE TWO TYPES OF ELEPHANTS IN AFRICA: SAVANNA ELEPHANTS AND FOREST ELEPHANTS.

- The biggest distinctions between the two types of elephants are their size, ears, and tusks.
- Savanna elephants are much larger than Forest elephants.
- The Savanna elephant's ears are shaped like the African continent, where as the Forest elephant's ears have a more rounded shape.
- Also the Savanna elephant's tusks are larger and curve outwards, where as the Forest elephant tusks are short and stout!

ELEPHANT FUN FACTS

DID YOU KNOW?

ELEPHANTS HAVE A LARGE APPETITE!

- Each day, a single adult spends up to 18 hours munching down more than 500 pounds of grasses, roots, leaves, bark and fruits--the equivalent in weight to a human eating 1,000 steaks.
- The animal also gulps more than 30 gallons of water a day!

DID YOU KNOW?

THE OLDEST FEMALE ELEPHANT IS THE LEADER OF ITS ELEPHANT FAMILY UNIT!

- Males leave their female-led birth groups as teenagers, striking up friendships with other families and other males.
- Later, when mature, males seek out groups with fertile females for mating.
- Ranging in size from two to 50, the family units link elephant societies together.
- Research suggests that matriarch leadership matters most in stressful times.
- A matriarch's experience may help her group avoid predators.

DID YOU KNOW?

AFRICAN ELEPHANTS NEVER EVOLVED THE ABILITY TO JUMP!

- Most animals who jump, such as kangaroos and monkeys, do so to get away from predators. Elephants never have to worry about making a quick escape and use their large bodies and keep together in large herds as a form of protection.
- Unlike most mammals, African elephant's leg bones are pointed downward, which means they don't have enough spring to push off the ground.

SOURCES

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