

Teaching Guide
and Lessons
Elementary Edition (Ages 8-10)

Elephants **Never Forget**



"In the past century, the number of elephants in the wild has declined by 50 per cent. Their disappearance could devastate ecosystems and have a lasting impact on the biodiversity of our planet. I hope this program will inspire and empower you to help protect elephants worldwide."

- Leonardo DiCaprio, Actor & Activist

Learning Objectives

The lessons in this program meet learning objectives in science, social studies, and language arts. Among other program goals, students will learn life science concepts, practice purposeful reading and comprehension strategies, and conduct role-play, public speaking and other activities that encourage understanding and presentation of various viewpoints and perspectives on an issue.

Teaching Guide Contents

Pages 3-9..... Informational Text:

Page 10:.....Glossary

Pages 11-20..... Lessons & Worksheets

Companion DVD

The educational video runs for about 18 minutes and is appropriate for general youth audiences. The DVD also includes PDF documents of this guide plus many more program materials, an interactive poster, and much more!

Online Resources

IFAW's Animal Action education programs offers a wealth of free resources on themes related to animals and conservation. Find them online at: www.ifaw.org/education

Animal Action Education

Each year, IFAW launches a new thematic education program focusing on animals and the environment. Standards-based educational materials are locally adapted for free distribution in eight languages and 15+ countries, reaching more than 5,000,000 young people worldwide each year. For more information about IFAW and the Animal Action education program, email info@ifaw.org, or call 1-800-932-4329.

The Animal Action Education program is supported by:

Geraldine R. Dodge Foundation
Foundation M
Wallace Genetic Foundation

International partners:



Animal Action Education is a program of:



How to Use This Program

Elephants, Never Forget aims to educate students about wild elephants and their unique role in our shared world, including topics related to biodiversity and habitats, as well as some of the issues and challenges elephants face. Here's one possible approach to teaching this program:

1. Introduce Topic and Develop Content Knowledge

Video (on DVD), Lesson Plan 1, Worksheet 1, Video Quiz

A. Video Viewing

View the video with your class to build background and tap into students' prior knowledge about elephants. Students may use Worksheet 1 to build background around key vocabulary as they watch the video. Following the viewing, students may take the short Video Quiz and discuss what they have learned.

B. Read Text Pages

Use suggestions from Lesson 1 to prepare students to read the Text pages in this guide. During reading, students may also use Worksheet 1 to record information about key vocabulary.



Follow the footprints...
Look for this symbol to lead you to additional lessons, activities & resources.

2. Conduct Lesson Activities

Teaching Guide: Text Pages, Lesson Plans and Worksheets

- Lesson 2 focuses on understanding concepts of habitat loss and building empathy for elephants;
- Lesson 3 presents activities to support the learning about biodiversity and the interactions between elephants and other species in their ecosystems;
- Lesson 4 and Worksheet 2 provide a narrative about an elephant rescue with various possible written, dramatic, and discussion-oriented activities;
- Lesson 5 guides students to categorise and compare threats to elephants with threats to other animal species—to reflect topics described in the text;
- Lesson 6 and the News Article Handout guides students to communicate an argument taking account of different viewpoints, drawing upon on what they have learned through research and debate.
- More optional lessons are on the companion DVD, or online: ifaw.org/lessons

3. Extend Learning and Take Action

Teaching Guide: Lessons. Plus: Interactive Poster Guide, Take Action for Elephants Leaflet, Elephants Crafts and Activities Pages

Use the optional suggestions within the lessons as homework or extra projects to reinforce learning. There is also an *Interactive Poster*, perfect for whiteboard or individual student exploration. Younger students may enjoy some fun elephant crafts and learning activities on the *Crafts, Activities and Coloring* pages. Suggestions for individual and group action to raise awareness about elephant issues can be found in the supplemental *Join the Herd: Take Action* flyer. To access these resources online, visit: www.ifaw.org/education

Ground Rules Activity

Prior to discussions that may involve strong views or feelings, many teachers and students like to develop ground rules within their classrooms to promote positive listening, respect, and sensitivity to different points of view.

Ask the class to pair up and answer the following question: 'How do people behave toward me that makes me feel confident and comfortable to talk with them about things that really matter to me?'

Ask the pairs to move into groups of six and share their ideas. Have them make a list of the behaviors that all six can understand and agree with. These may include:

1. They listen to me.
2. They don't laugh.
3. They don't shout out what I say to other people.

Gather the whole class and ask each group to report their list—one behavior at a time. Check for understanding and agreement with the whole class. Only write down those behaviors that everybody accepts and understands.

Steer the group towards identifying clearly observable behaviors rather than broad concepts. Display the list as a means to encourage individuals to take responsibility for their actions within the group.

Elephants

Never Forget

Elephants are big—*really* big. They are the largest land animals in the world. They are also clever and sensitive. Elephants have good memories—they can remember their relatives for a long time. They care for their families and appear to show sadness when loved ones die. These animals are strong and gentle. They are also in danger. Today, many herds of wild elephants are fighting to survive.

Many thousands of years ago, large elephant-like mammals called American mastodons and woolly mammoths roamed the earth. These ancient relatives of today's elephants are now **extinct**.

© IFAW/J. Hrusa



Today, there are two main groups of elephants—African and Asian. They are easy to tell apart if you know what to look for. Scientists have also discovered that African elephants may include two different **species**—forest elephants and **savannah** elephants. Savannah elephants are larger than forest elephants. Their ears are bigger and their tusks are more curved.

All elephants are **herbivores**. They eat grasses, bark, twigs, leaves, and fruit. They can spend 18 hours each day eating. An adult elephant might eat more than 400 pounds of food in one day. They also need about 30–50 gallons of water each day. They travel long distances to find it.



© IFAW/J. Hrusa

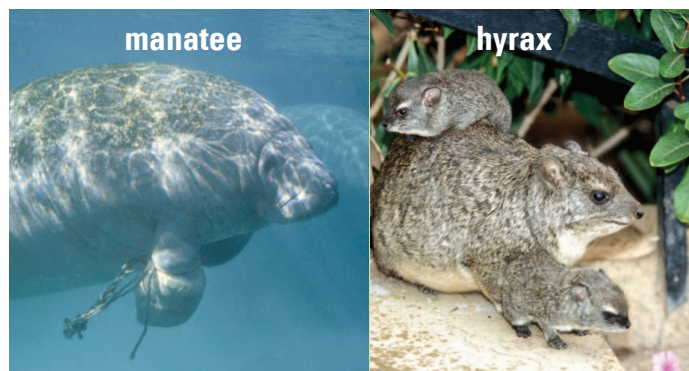
Elephants in Africa



© IFAW/M. Booth

Elephants in Asia

| | |
|---|---|
| About 10 feet tall at shoulder | 8–10 feet tall at shoulder |
| Males weigh up to 13,200 pounds | Males weigh up to 11,000 pounds |
| Huge ears cover shoulders | Large ears don't reach shoulders |
| Flat back with a dip in the middle | Rounded back |
| Long tusks on both males and females | Shorter tusks, only found on some males |
| Skin is more wrinkled and brownish-grey | Skin is less wrinkled; grey to brown, with pink patches |
| Flat crown of head with no dent in middle | Crown of head has a dome shape with dent in middle |



Believe it or not, these animals are relatives of elephants!

Big Is Just the Beginning

Elephants' bodies have many unusual and useful parts. Their trunk and tusks are great tools for eating, communicating, and other tasks. Elephants' large ears and feet are useful too. In fact, most things about their bodies help them to survive.

Besides having amazing bodies, elephants have amazing brains! One thing their brains help them do is work well together in groups. Elephants live in family groups of female elephants of all ages and young male elephants. Females stay with the same group for their whole lives. Males usually leave the group when they are between 12 and 17 years old. They live alone or together in small herds.

Ears: The Asian elephant in this picture has big ears. And African elephants have even bigger ears! Elephants fan their ears to cool down. They also use them to hear faraway sounds, shoo insects, show feelings, and make themselves look bigger when facing enemies.

Hair: Elephants have very little hair.

Tusks: The tusks are overgrown teeth. Elephants use tusks to carry things, pull bark off trees, clear paths, dig for roots and water, fight enemies, and impress other elephants.

Skin: Elephants can get sunburnt and suffer insect bites. To protect their skin, they roll in mud or give themselves dust showers. Also, water trapped in skin wrinkles cools down elephants.

Mouth: Elephants' back teeth are the size of bricks.

Trunk: A trunk is a nose and an upper lip. This useful body part helps elephants smell, eat, scratch, greet friends, threaten enemies, and move or throw things. Elephants might use trunks as shower heads or as snorkels when they swim!

Feet: Their feet have thick padding. The padding softens elephants' heavy tread.

Tail: Elephants use their tails to shoo insects. A young elephant will sometimes follow its mother by grasping her tail with its trunk.

© IFAW/D. Willetts



Elephants rest their trunks on each other's foreheads to show friendship.

An older female elephant called a **matriarch** leads each group. She keeps the elephants safely together and helps them find food and water. She makes important decisions, such as when to charge and when to flee from danger. She also teaches other females about caring for their young.

Elephants show their amazing memories by remembering relatives after years of being apart. When they meet, they sometimes turn in circles, flap their ears, and trumpet loudly.

Elephants have emotions, and the females form strong relationships. They may celebrate births with trumpeting. They may take turns shading an injured calf. Elephants kiss or wrap trunks to show affection. They play games, such as throwing around objects.

When an elephant dies, its relatives may bury it with leaves and twigs. Even years after a death, elephants may visit the bones and mourn.

© IFAW/R. James





Elephants usually travel one behind the other, like this herd of elephants in Kenya's Tsavo National Park. IFAW has been helping to restore habitat and support wildlife rangers in this huge park.

© IFAW/D. Willetts

Key Roles of Elephants

Scientists consider elephants to be **keystone species**. This means they have an important role in maintaining the **biodiversity**—the wide variety of plant and animal species—of their **ecosystems**.

One way elephants help their ecosystems is by eating. As elephants in a forest eat, they create gaps in the vegetation. These gaps allow new plants to grow and create pathways for other animals. In West Africa, forest elephants are the only animals big enough to eat the branches of some large trees. They spread the seeds from these trees through their dung. The dung fertilizes the seeds as they grow into new plants. Many of these trees would disappear without the help of elephants.

© IFAW/R. Janes

It's a Fact!

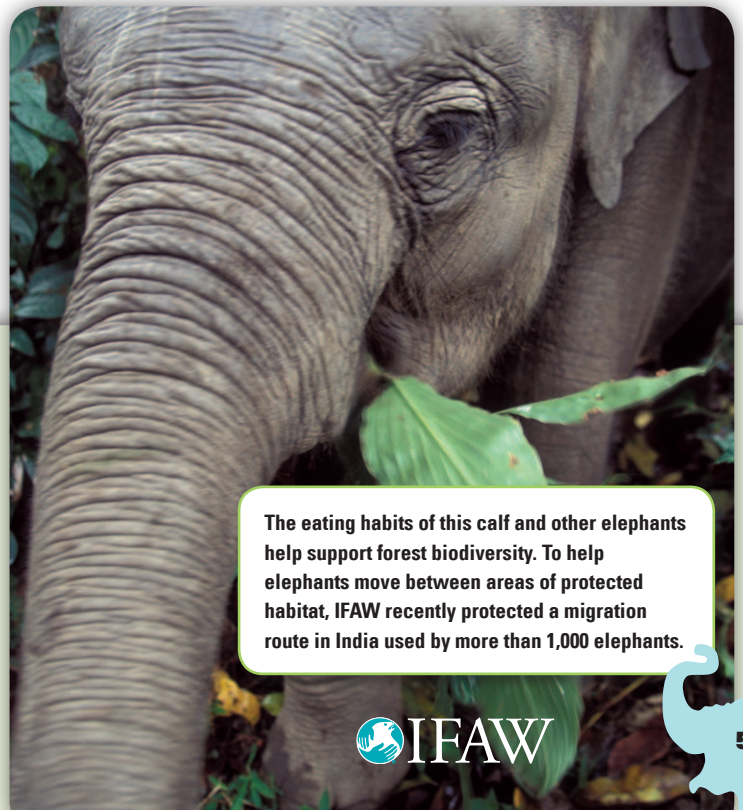
- An elephant trunk has tens of thousands of muscles. A whole human body has fewer than 650!
- Elephants can collect water in a special pouch in their throat. They can spray it later, when they get hot.
- Baby elephants suck their trunks, just as children suck their thumbs.

Elephants that live on the savannah eat the sprouts of trees and shrubs. This keeps the plants from growing out of control and blocking sunlight. If sunlight did not reach the savannah's grasses, they would die. Antelopes and other animals that graze on the grasses would disappear. And the **carnivores** that depend on those grazers for food would disappear too. During the dry season, savannah elephants use their tusks to dig water holes that other animals can use. These water holes may be the only sources of water in the area.

Long-Distance Communication

Elephants communicate by grunting, whistling, snorting, bellowing, rumbling, trumpeting, and more. Some sounds elephants make are too low for humans to hear. But other elephants may hear these sounds from more than 5 miles away. These sounds help elephant groups communicate for weeks without ever getting close together.

Elephants also communicate by stomping. These sounds may travel 20 miles or more through the ground.



The eating habits of this calf and other elephants help support forest biodiversity. To help elephants move between areas of protected habitat, IFAW recently protected a migration route in India used by more than 1,000 elephants.

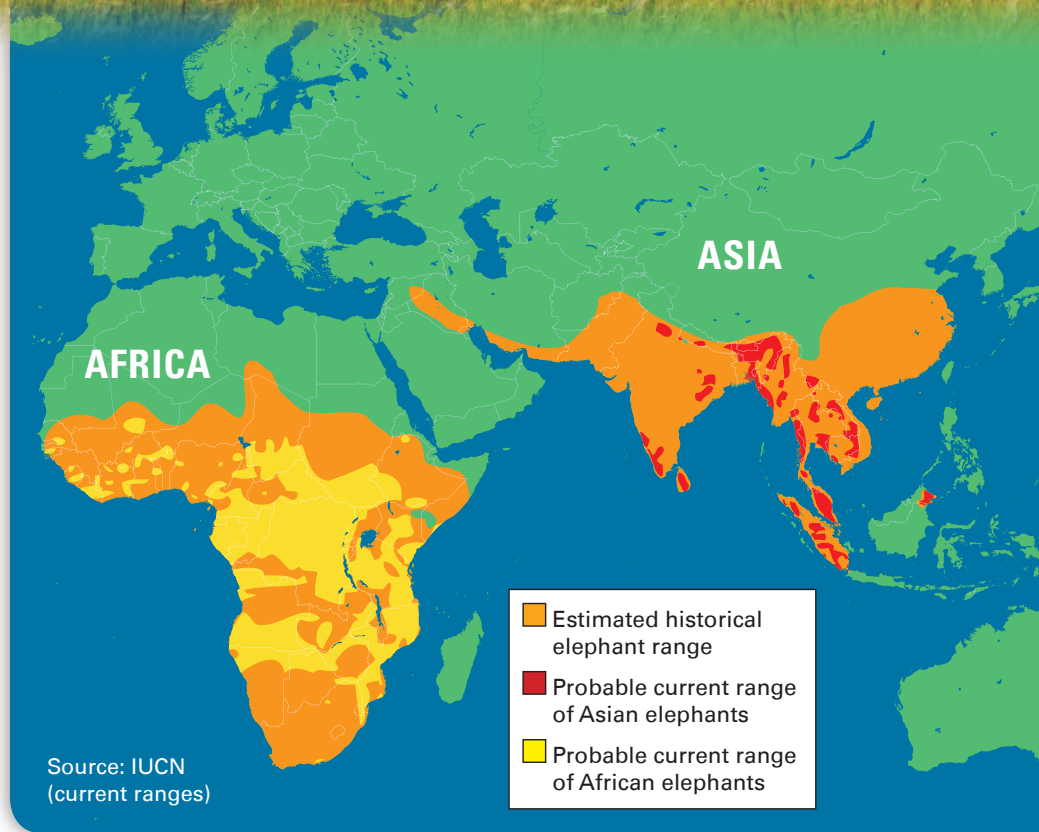
Room to Roam

African elephants used to roam through much of Africa. However, their **range** is now smaller because people are clearing more land for farming and living space.

Today, elephants live in parts of 37 African countries. They live in protected parks and places with little human settlement. The range of Asian elephants has also shrunk. They now live in parts of 14 Asian countries, in forest, scrub, and grassland areas.

As elephants are being crowded out of their habitats, they are being left with small patches of disconnected land. This **habitat fragmentation** creates more conflicts between people and elephants. Roads and railways have cut off many of the old elephant **migration** routes. Or, the routes take herds through new farms and settlements. Herds have trouble getting to food and water. They also may not meet other elephant groups, so the elephants have fewer choices of mates. This is not healthy for the elephant population.

Because of these problems, **conservation** groups are working to protect elephants' habitats and migration routes. They are also protecting strips of land that connect one patch of habitat to another. Elephants can move safely between areas of their habitat along these **elephant corridors**.



Climate Change

Climate change happens when gases in the air keep heat near the earth. This causes the earth to warm over time. Climate change can cause many problems, such as floods or droughts (long periods without rain). During a drought, there may not be enough water for animals and people.

Protecting elephant habitats—especially forests—can limit the effects of climate change. Forests capture some of the gases that otherwise trap heat. Therefore, protecting elephant habitat may be helpful for all plants and animals—even people.



Elephants and Us

Elephants are important to the history, lives and culture of people in Asia and Africa. They are gods in some religions. They are celebrated at festivals. They are included in weddings. For hundreds of years, people have used elephants as work animals for transportation and for lifting heavy objects. They have even been trained and used in wars. Today, tour guides use them to carry people and to frighten away predators.



© IFAW/L. Aidong

China's last rain forest, Xishuangbanna (shee-shuang-bahn-nah), has fewer than 300 elephants—the last ones in China. Elephants in China face many challenges due to human activities. In 2003, IFAW began to help people find new ways to make money, so they wouldn't need to farm in elephants' habitat. IFAW also helped teach people about elephant conservation.

To the Rescue

An IFAW rescue and **rehabilitation** centre in Assam, India helps Asian elephant calves who are injured or orphaned before they are old enough to survive on their own. When a calf is found in trouble, rescuers first try to bring it back to its herd. If that isn't possible, the calves are raised at the centre until they are one to two years old. Then they are released into a protected wildlife reserve. As of 2011, 13 orphaned elephant calves had been released back to the wild.



© IFAW/R. Janes

In recent years, problems between elephants and people have grown. Elephants have had to compete with people for space, food, and water. They sometimes wander into villages and fields, looking for food. Farmers drive elephants away to protect their farms, often killing or injuring elephants. People may also be killed by elephants during these clashes.

Sometimes, people have turned to culling, or killing some elephants to control the elephant population. They may kill individual elephants or entire families. It is very disturbing to elephants that see the killings. They may become very sad, avoid other elephants, or act more aggressively.

In some African countries, people can connect protected areas to make 'mega-parks' where people and elephants don't meet. In ways such as this, people are working to stop conflicts between people and elephants *before* they happen.

Jumbo Move

In Malawi, Africa, IFAW safely moved an entire herd of 83 elephants to prevent conflicts with people.

The elephants are now roaming free in a protected wildlife reserve in another part of the country.

This IFAW project shows that conflicts between humans and elephants don't have to end in violence.



© IFAW

© IFAW/R. Janes



In India and other Asian countries, elephant keepers, called mahouts, train elephants to carry people and other loads. The elephants shown here help patrol for poachers.

The Trouble with Tusks

Millions of wild elephants once roamed the continents of Africa and Asia. But scientists believe that there are only half as many elephants now as there were about 100 years ago.

One of the biggest reasons for this is the killing of elephants for their ivory tusks. Ivory has been used by people for thousands of years. It is used to make piano keys, fancy chopsticks, and other luxury trinkets. But the only way to get ivory is from a dead elephant.

The buying and selling of ivory was banned following a 1989 agreement among governments. But elephants are still illegally **poached** because many people still want to buy ivory, and there is not enough protected habitat. Also, in many poor countries, it is difficult to enforce the laws.



© IFAWD, Willetts

Internet Trading

The Internet has become an easy place for people to illegally trade wildlife and wildlife products. IFAW discovered that close to three-quarters of wildlife products offered online in 11 countries were real elephant ivory. As a result, the Internet auction site eBay banned the sale of ivory at the start of 2009. People can help save elephants by choosing not to buy ivory online or anywhere else.

Ivory and the Law

In 1989, a treaty called the Convention on International Trade in Endangered Species (CITES) gave all wild elephants the highest level of protection. The buying and selling of ivory and other body parts from African and Asian elephants was banned.

But a change in the agreement allowed ivory **stockpiles** to be sold a few times since then. The sellers said the ivory came from elephants that had died naturally, but many people think that the elephants had been killed.

Conservationists say that if it is legal to sell any ivory, there's always the chance for poachers to smuggle illegal ivory and sell it. And it's impossible for people to tell the difference between legal and illegal ivory.

Many people around the world believe that the ivory trade must be completely stopped for African and Asian elephants to survive.



© IFAWD, Willetts

Conservation organizations are working to protect elephants from poachers. They help enforce the ban on trading ivory and work to teach people not to buy ivory products of any kind.

In addition, scientists have a new way to help end elephant poaching. They are now able to examine ivory and figure out which living elephants are relatives of the elephants that were killed for the ivory. This research tells scientists where the ivory came from and where elephants were killed.

This helps law enforcement officials and other people working to protect elephants to identify the places where a lot of poaching is taking place.

Saving Elephants

If the ivory trade is allowed to grow and elephants' habitats continue to shrink, then elephants will continue to be in serious danger. Conservation groups are working hard to save elephants. Governments, organizations, businesses, and communities must all work together to protect elephants and their habitats.

Elephants are extremely important for conservation. Protecting elephants means that more plants and animals and more ecosystems will also be conserved. The extinction of elephants would be terrible for many other species. And it would be a tragic loss of one of the wisest and most beloved of all animals.

This African elephant mother and calf roam at the foot of Mount Kilimanjaro in Amboseli National Park, Kenya, where IFAW works with renowned elephant scientist Cynthia Moss. Moss has followed these elephants since 1972. Her findings have provided incredible insights into elephant society, intelligence, and ecology. IFAW also supports community conservation projects with local Masai groups and partners with the Kenya Wildlife Service on anti-poaching efforts.



Glossary

biodiversity: biological diversity; a measurement of variation in species, genes, and living communities in an area

carnivores: meat-eating animals

conservation: the protection or careful use of something, such as a species or a natural resource

ecosystems: interacting communities of plants, animals, and the nonliving components of the environments in which these plants and animals live

elephant corridors: pathways that elephants travel between habitat areas

endangered species: species that are in great danger of dying out completely

extinct: no longer living (as in a species that no longer lives on Earth)

genetic diversity*: variety in the code for inherited traits of an entire species

habitat fragmentation: the process of breaking up a habitat into smaller and more disconnected patches

herbivores: animals that eat only plants

keystone species: species that strongly affect the structure and function of an ecosystem, as a keystone in an arch affects its strength

matriarch: the female leader of a family group

migration: the movement of animals from one place to another

poached: hunted and killed illegally

range: the entire area where a type of wild animal lives

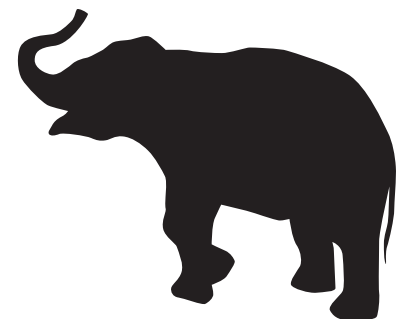
rehabilitation: restoration to a state of health or normal activity after a period of difficulty

savannah: a flat grassland without many trees

smuggling: illegally moving goods into or out of a country

species: a group of living things that are similar and can have babies

stockpiles: large, stored-up supplies





Lesson 1: Building Knowledge - Video and Text

Learning Outcomes: Students will tap into prior knowledge, make connections as they view a video and read an informational text about elephants, understand essential vocabulary related to elephants, and comprehend important information about elephants.

Viewing/Reading: Younger Students

Before/During Viewing the Video

1. Ask pairs of students to discuss things they *know* about elephants. Then ask each pair to share what they know with the group as you record their information on flipchart paper in the *K* column of a **KWL chart**.

| K <i>Know</i> | W <i>Wonder</i> | L <i>Learned</i> |
|-------------------------|---------------------------|----------------------------|
| | | |

2. Next, ask pairs what they *wonder* about elephants. Tell each pair to come up with at least one question and write it on a sticky note. Have the pairs share their question(s) with the class as they stick each one on the chart in the *W* column.
3. Show the **video**.

After Viewing the Video

4. Independently or as a group, have your students take the **Video Quiz**. When they are finished, discuss what students learned about elephants. Use questions such as the following to stimulate discussion.
 - *How does an elephant use its trunk?*
 - *How do elephants talk to each other?*
 - *In what ways are elephants like people?*
 - *What are ways that elephants help other animals?*
 - *How do people both help and create dangers for elephants?*
5. Ask students which questions on the KWL chart have been answered. Remove these sticky notes and have students help you write what they *learned* in the ‘L’ column.

Before/During Reading the Text

6. Preview the text, images and **glossary** with students. Discuss the meanings of some or all of the words.
7. Read the text aloud or ask students to read independently. Provide **Worksheet 1** as an optional resource or homework.

After Reading the Text

8. Use the question prompts above to discuss the written text.
9. With students, review the questions on the KWL chart to decide whether they have been answered. If any questions remain unanswered, help students think of Internet and print sources they could use to find answers.

Viewing/Reading: Older/Advanced Students

Before/During Viewing the Video

1. Allow students to connect to prior knowledge by discussing in pairs what they know about elephants.
2. Show the **video**.
3. Have students take the **Video Quiz** with partners or independently.
4. Give each student a copy of **Worksheet 1**. Read the terms and explain that they are important to elephants and the problems they face. Ask students to write in the second column how they think each term relates to elephants. (You may provide dictionaries for reference.)

After Viewing the Video

5. Ask partners to discuss their answers to the **Video Quiz** and what they wrote in the second column of **Worksheet 1**. Have students write on their worksheets what they feel is the most important information. They may use the backs of their worksheets if needed.
6. As a group, discuss the video and the students’ responses to the **Quiz and Worksheet 1**. Ask students what they thought were the video’s most important points and summarize these on a class chart.

Before/During Reading the Text

7. Have students preview the text, images and **glossary** of terms.
8. Have students read the text independently or with partners, pairing strong readers with less-able readers.

After Reading the Text

9. After reading, use these question prompts to help students consolidate understanding:
 - *How do elephants use their trunks?*
 - *In what ways are elephants social animals?*
 - *How do elephants help maintain biodiversity?*
 - *How do elephants’ tusks help them survive but also put them in danger?*
 - *How do people both help and harm elephants?*
 Have students add the information from the reading to their worksheets and help you add to the class chart.



What’s Your View? Extend learning during pre- or post- video viewing and text reading by exploring perspectives with a lesson, *What’s Your View*, from our *Under One Sky* program. Download online at: www.ifaw.org/lessons

Bringing It Home: Invite your students to imagine and explore – through colorful artwork, an essay, short story, poem, or another creative project– the topic: *A day in a world without elephants*. Submit original student artwork to the Animal Action Art Contest. All the details and an entry form can be found at: www.ifaw.org/artcontest

Worksheet 1: Viewing/Reading Guide

Name _____ Date: _____

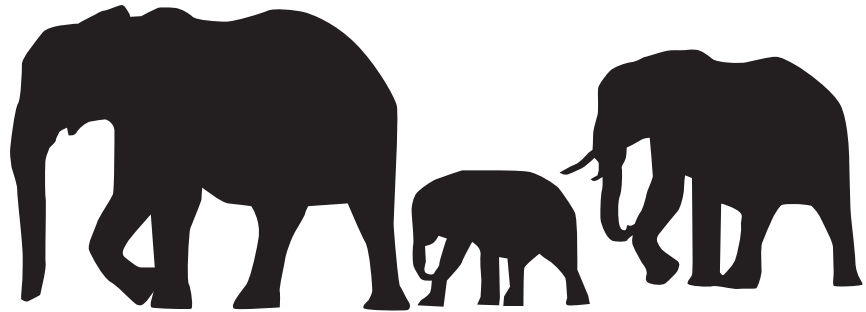
Directions: Use the boxes to fill in information about how each word relates to elephants.

| Word | How is the word related to elephants? | What I found out |
|-----------------------------|--|-------------------------|
| tusks | | |
| trunk | | |
| communicate | | |
| matriarch | | |
| poaching | | |
| biodiversity | | |
| keystone species | | |
| Most Important Facts | | |
| | | |

Video Quiz

Name _____ Date: _____

What have you learned from the film you just watched?
Answer the questions below.



1. Which of the following is NOT related to today's elephants?

- a) a pig
- b) a manatee
- c) a woolly mammoth

2. Which adaptation helps elephants cool off on the African savannah?

- a) padded feet
- b) large ears
- c) long tusks

3. Elephant tusks are teeth.

- a) true
- b) false

4. How much might an African bull elephant weigh?

- a) as much as a young child
- b) as much as 6 children
- c) as much as 80 people

5. Which of the following is NOT something an elephant could do with its trunk alone?

- a) carry a tree trunk
- b) pick up a blade of grass
- c) drink water

6. Which of the following is a way that elephants help their habitats?

- a) Elephants create a huge amount of methane gas that cleans the air.
- b) Elephants produce a huge amount of dung that helps spread plants.
- c) Elephants make loud vibrations that knock down trees to make room for grass.

7. What best describes how elephants living near people get into conflict?

- a) When elephants get bored, they chase people, trample crops, and destroy villages.
- b) When elephants run out of plants, they eat other animals that people hunt for food.
- c) When elephants run out of space, they move into human areas and both people and elephants can get hurt.

8. What are three ways that elephants have been important to humans in history?

9. What are three threats to elephants today?

10. Why does the author write that it's important we don't forget elephants?

Answers: 1. a; 2. b; 3. a; 4. c; 5. c; 6. b; 7. c; 8. Answers may include: for transportation, heavy lifting, war, and religion; 9. Answers may include: building roads and railways that break up migration routes, destruction of habitat, poaching for the sale of tusks/ivory, climate change effects, and conflicts between people and elephants over living space; 10. It's your decision!



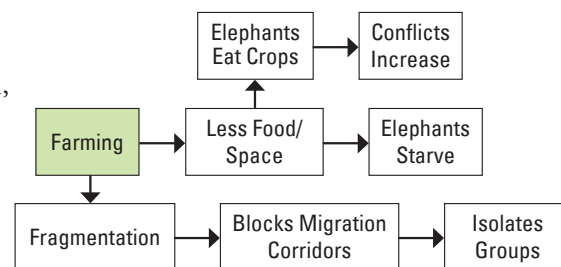
Lesson 2: Understanding Habitat - Simulation & Role Play

Learning Objectives:

Students will be introduced to concepts of habitat loss and fragmentation by taking part in activities that help them empathise with elephants and use skills in persuasive writing and public speaking.

Introducing the Text (all ages/abilities)

1. Read the text sections 'Big Is Just the Beginning,' 'Room to Roam,' and 'Climate Change' aloud.
2. Read the questions below and write them on the board. Ask students to turn and talk to a partner about each question before they discuss it as a group. Model how to find answers in the text and how to infer from text clues.
 - *What reasons does the text give for loss or fragmentation of elephant habitat?* (farming, settlement, climate change, disruptions due to road and railway building)
 - *How does habitat loss create problems for elephants?* (changes access to food and water, increases conflicts with humans, isolates groups, limits mating choices, increases illness)
 - *What are some things people can do to help elephants' habitat issues?* (make elephant corridors, preserve habitat, use less paper so forests aren't cut down, use less energy to limit climate change effects, write to leaders, educate others)
3. Ask students to help you create a shared diagram on flipchart paper that lists/illustrates the effects of habitat loss. One example of how your completed chart may look is pictured at right.



Habitat Loss Simulation

1. Write the following scenario on the board: *A local village has expanded the number of houses and the amount of farmland around it, which has meant a loss of 25 per cent of the elephants' habitat. What does this mean for the elephants?*
2. Ask students to measure the size of the classroom and record the area on the board. Then have students calculate how much area is lost if 25 per cent is removed. Record this.
3. Ask students to create 'habitat islands' that are respectively 50 per cent and 25 per cent of the original total area. Help them mark these spaces on the floor with string or rope.
4. Assign about 75 per cent of the class to the bigger space and 25 per cent to the smaller space. Conduct regular class activities with students sitting in the reduced spaces. Tell them that the two groups cannot communicate.
5. Discuss with students how losing communication and 25 per cent of their classroom space affected them. How did sitting so close make them feel? Was it harder to go about normal activities? How might elephants feel about the loss of 25 per cent of their habitat? What might they do?
6. Mark off paths that students follow to resources such as reference books, lunch bags, or water fountains. Then close off these 'corridors.' Have students attempt to go about their normal activities with their regular classroom "routes" blocked. Make comparisons to elephants cut off from water or a traditional migration route.

Habitat Loss Role-Play

1. Write the following words on flash cards: *mothers, babies, food, water, travelling, health, enemies, and communicating.*
2. Assign partners and tell students they are elephants. Have each pair pick a card. Explain that each pair is going to discuss how the word on their card relates to them, as elephants, living in two different situations. One elephant is living in a wide, open area that has been unaffected by human settlement. The other elephant is living near a village that has been expanding into his/her habitat.
3. For younger/less-able students, you may need to model examples. Say: *I picked the card for water. First, I am an elephant living in a wide, open space. I sometimes need to travel a long distance in search of water. There is a drought and I can't find enough water. . . . Next, I am an elephant living near people. The water is on the other side of the village. My herd tramped through the village to get to the water. The people got angry and killed some of my herd.*
4. After students have discussed the word from the perspective of both elephants, have them create a dialogue, sharing the two elephants' points of view.



Lesson 3: Elephants & Ecosystem Connections

Learning Objective: Students will understand the importance of elephants in their ecosystems, the interrelationships they have with plants and other animals, and the roles they play in maintaining biodiversity.

Ecosystem Connections: Younger Students

1. Read the text section *Key Roles of Elephants* (from the **Primary Edition**) aloud to students as they follow along.
2. Help students begin to understand the roles of elephants in their ecosystems. The concepts of biodiversity and keystone species discussed in the text will be difficult for many students, so focus on the concrete ‘jobs of elephants’ (write this phrase on the board). Highlight phrases from the text such as the following and have pairs of students discuss them and draw pictures to represent them.
 - ‘As elephants in a forest eat, they create gaps in the vegetation. These gaps allow new plants to grow and create pathways for other animals.’
 - ‘They spread the seeds from these trees through their dung. The dung fertilises the seeds as they grow into new plants.’
 - ‘During the dry season, savannah elephants use their tusks to dig water holes that other animals can use.’
3. Have the pairs of students share their drawings with the larger group. Discuss as necessary. Then discuss the more complex cause-and-effect series from the text about savannah elephants eating trees and shrubs, encouraging grass growth, and in turn helping grazers and predators that eat grazers. As a group, map this series of relationships on the board. Then expand this cause-effect chain to a web by adding other side effects from grass growth, presence of grazers, and so on.

Ecosystem Connections: Advanced Students

1. Have students reread *Key Roles of Elephants* (from the **Secondary Edition**).
2. Write the question prompts below on the board. Place students in groups to discuss them.
 - *What is biodiversity?* (biological diversity, a measurement of variation in species, genes, and ecological communities)
 - *How do forest elephants help maintain biodiversity in their habitat?* (create gaps in vegetation that allow new plants to grow; spread seeds in dung which germinate and grow)
 - *How do savannah elephants affect grazing animals such as zebras and gazelles? How do they affect predators such as lions? How do they affect smaller animals such as birds and insects?* (maintain grassland, which feeds grazers and in turn provides food for predators such as lions; create water holes for other animals to drink from)
 - *What would happen to animals in forests and grasslands if elephants were to disappear?* (ecosystem would be altered; other species that depend on the ecosystem in its current form would die)
3. Have each group create an ecosystem relationships map on a large sheet of flipchart paper that shows the web of connections and interactions between elephants on one side and another animal that shares their habitat (such as the savannah animals listed above) on the other. You might start by having the groups research one or more of these animals on the Internet or from other sources.
4. Once the maps are complete, call the groups together for a class discussion and ask groups to share their visuals.

Animal Classification and Relationships

1. As a class, brainstorm and list animals and insects that live on the African savannah with elephants. Some are: antelopes, ants, cheetahs, dung beetles, gazelles, hyenas, meerkats, raptors, rhinoceroses, and vultures.
2. Have students suggest ways to organise the animals on the list into categories—for example, by ecological role or niche (producers, herbivores, carnivores, grass eaters, scavengers) or by taxonomic group (birds, insects, mammals).
3. **Optional:** Have each student research one animal and its relationship to elephants. Assign several students to each chosen animal. After they research individually, have students with the same animal discuss findings in small groups before reporting to the class. As a class, discuss why it is important to biodiversity that elephants survive on the grasslands.

Explore Your World: Eco-investigation

Extend classroom learning by taking your students outside to discover animals, biodiversity and ecosystem connections close to home.

IFAW’s *Eco-investigation Lesson and Worksheet* is based on basic fieldwork techniques that introduce students to local biodiversity through visual identification during a guided study of an outside area you have identified, such as the school yard, a nearby park, meadow, or conservation area. The lesson also helps promote better understanding of the impact of human activities on animals and habitat.

The *Eco-investigation Lesson and Worksheet* can be found on the companion DVD or online at: www.ifaw.org/lessons



Lesson 4: Responding to a Narrative

Learning Objectives: Students will read about an elephant rescue and choose from a variety of response activities. Students will apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate the text.

Introducing the Text (all ages/abilities)

1. Ask students to read the text on **Worksheet 2** silently. For younger/less-able students, read the text aloud while they follow along.
2. To ensure understanding of the text, use these prompts:
 - *What does the fact that the elephants were at the farm suggest about their habitat?*
 - *What do you know about the way the farmers felt about the elephants?*

- *Why did each baby elephant have its own caretaker?*
 - *Why did the caretakers take the babies on walks together?*
3. Allow students to choose from the list of activities on **Worksheet 2** as a follow-up response to the text. Help less-able readers choose an activity that they can complete. Work with these students to help them complete the activity or have them work in pairs to complete it. Further discussion of the activities is included below.

Rewrite the Story from an Elephant's Perspective

Make sure students understand that the text's point of view is that of an outside observer telling the perspectives of all the participants: the elephants in the herd, the baby, and the workers. To rewrite the text, students need to focus on just the point of view of the baby. Model how they can do this through first-person narrative, allowing them the freedom to change the story at any point if it helps them to write creatively and in character.

First person modeling: Suddenly, I heard loud noises and watched in dismay as the herd ran away. I cried out to tell them to come back and not leave me behind in the hole. I looked up and saw a human peering down at me. *What was going to happen to me*, I thought.

Follow up on the writing exercise with a group discussion about how it felt to write from the perspective of the baby elephant. Ask students how it helped them understand the elephant's situation.

Write a Mock Interview

1. Provide students with a model of an interview or remind them of interviews they may have seen on news programs with young people as hosts and reporters.
2. Have students think about the role of the carers at the rescue centre and what questions they would like to ask a carer. Ask them to record their questions and answers.
3. Students could then work with a partner to develop a role-play of an interview to present to the class. As an alternative to the role-play, have students write a mock e-mail thread in which one student writes interview questions, the other responds in writing, and then the first asks further questions for clarification.
4. Work with younger/less-able students to brainstorm a list of questions they could ask one of the carers. Write the questions on the board. Then ask students to respond to the questions orally as if they were carers. If necessary, model for students how you would answer one of the questions in the role of a carer.

Stage a Mock Rescue

Have students read the story and then stage a similar story of an animal rescue. You might choose to split the class in half and have each prepare and perform their own interpretation for the other. Encourage them to change details about the story for dramatic effect, and to add the part of a narrator if they wish. If time allows, give them the option of writing a script or planning loosely and then improvising.

For younger or less-able students, help to write a simple script that they can follow as they perform. After the activity, hold a class discussion on how the experience helped them understand the situation of stranded animals and animal rescuers. As an optional variation, have students take on the role of theatre critics or reviewers when they are not performing, encouraging them to take notes and later write up short reviews.

Write a Newspaper Article, Blog Entry, or Graphic Novel

Provide models of newspaper articles or news-oriented blogs for students to use as references. Have students work in pairs (or model for less-able readers) to find the answers to the questions *who/what, where, when, why, and how*. Have students divide a sheet of paper into five sections and write one of the question words at the top of each column. Have them refer to the text about the baby elephant to answer the questions. Then tell readers to assume the role of a foreign reporter or blogger. Have them use their answers to rewrite the story as a news article or blog.

Optional: As variations on the activity, consider having students present the story as a series of text messages or an Internet news feed that is posted as the story unfolds. Or have them recreate the story as a graphic novel. Provide models of whichever text types you have them attempt, and help them recognise the characteristics (such as a limit on number of characters) of the genre.

Worksheet 2: Elephant Rescue

Name _____ Date: _____

Directions: Read the story. Choose a response activity.

The Rescue

In the middle of the night in India, a herd of elephants wandered out of the forest and into a farm looking for food. The elephants came to a deep, muddy ditch at the edge of the fields. Suddenly, a small baby elephant slid down into the ditch. She tried scrambling up the sides of the ditch to get out, but she wasn't strong enough or big enough to escape. She cried out in fear, calling to the other elephants for help.

Her mother and the other elephants tried to help, but the ditch was too deep for them to reach her with their trunks. There was nothing they could do to help the baby, but they stayed nearby to keep her company.

In the morning, farmers saw the elephants near their fields. They grabbed sticks and pots and rushed at the elephants, banging loudly on the pots to scare them away from their crops. The elephant herd was frightened by the noise and ran off, leaving the baby alone in the ditch. Then the farmers heard the cries of the baby elephant. They called for help from the Forest Department, which arrived with a bulldozer to dig away the dirt around the baby elephant. As the little elephant kicked and struggled, workers from the Forest Department finally were able to pull her out. When a vet checked the baby elephant, he found she was tired and thirsty and scared, but not badly hurt.

The forest workers tried to find the herd and the baby's mother, but they were gone. The workers knew that the baby wouldn't be able to survive in the wild on her own, so they loaded her onto the back of their truck and drove her to the Wildlife Rescue Centre in Assam, India.

At the rescue centre, the baby elephant had a carer who stayed with her all the time, feeding her several times a day. The carer even slept near her! The carers at the rescue centre took the babies they were caring for on walks together so they could learn how to find food and water in the wild. The baby elephant became part of a family of other baby elephants. When these elephants were older, they were all released back into the wild to live together as a herd.



Choose an Activity

- Rewrite the story from the point of view of the baby elephant, telling what the baby elephant thinks and feels.
- Find out more about animal rescues and stage a mock rescue.
- Write an imaginary interview with a carer at the rescue centre. Then work with a partner to role-play the interview for the class.
- Write a newspaper article, blog entry, or graphic novel about the rescue of the baby elephant.



Lesson 5: Comparing Animals in Danger

Learning Objectives: Students will research threats to various animals in the wild and make comparisons between them. They will gather, evaluate, and synthesise data from a variety of sources to communicate their discoveries in ways that suit their purpose and audience.

Comparing Animal Threats (all ages/abilities)

1. Place students in groups or pairs and ask them to list the threats to elephants, along with a short description of how each threat affects elephants and what is being done to protect elephants. Students can use the text to find and list the different problems elephants face. Remind them to also think back to the video. Then have students recall the main threats to elephants as a group.
2. Write the following research questions on the board:
What are the most significant threats to _____ [name of animal]? How does the threat affect the animal? What is being done to protect the animal?
3. Choose a set of threatened animals that students will explore in more detail. Like the elephant, the following animals face danger from poaching as well as other threats: tigers, whales, rhinoceroses, leopards, gazelles, leatherback turtles, birds of paradise, and scarlet macaws. Write the animal names on the board and decide how many students will research each. Then put the animal names in a hat and have students choose them until the slots for each animal are filled.
4. Ask the groups to consider where they will find information about their animal. IFAW has developed materials on tigers, whales, seals, and other animals that students can access on the IFAW website at www.ifaw.org.
5. Allow time for groups to research their animals, take notes, and prepare an oral presentation. Ask students to present their information to the class on a chart or overhead transparency in the following format.

| Animal: _____ | | Where animal is found: _____ | |
|---------------|-----------------------------|------------------------------|--|
| Threats | How these affect the animal | What is being done | |
| | | | |
| | | | |
| | | | |
| | | | |

6. **Optional:** As a variation on the activity, have students create the chart for display (and comparison), but allow students to make presentations in some non-standard form, such as a dramatic presentation of the threats to their animals.

7. After each presentation, discuss how the threats to the particular animal are similar to or different from those facing elephants and how they relate to the other animals presented by the different groups of students. For example, the elephant and the rhinoceros are under threat because of the poaching of the elephant's tusks and the rhino's horns. The leopard, tiger, and gazelle are poached for their skins, and the gazelle, like the rhino, is also poached for its horns. The tiger's body parts are also used in medicines. As a result of habitat destruction, animals like the leopard, tiger, and elephant come into conflict with humans.
8. Prompt students to think about the similarities between habitat-loss conflicts in Africa and Asia and issues caused by loss of habitat in other areas—such as habitat loss bringing animals into contact with people in the UK. Also encourage students to think about how climate changes can create both threats and advantages to certain animals (such as increasing temperatures affecting krill food sources for whales or plant foods for grazing animals).
9. After students present and discuss the problems various animals face, have each group create a chart that compares the problems their chosen animal has with those of the elephant. A partial example follows.

| Threats | Elephants | Tigers | Whales |
|----------------------|--|--------------------------------|--|
| Poaching | Ivory from their tusks | Hides, body parts for medicine | |
| Habitat loss | Human activities can crowd out elephants and lead to lack of food, access to traditional water holes. Fragmentation can lead to isolation of groups, less genetic variation, and more health problems. | | Drift nets can "block" whale migration through entanglement. |
| Conflict with humans | | | |
| Climate change | | | |



Lesson 6: Who Needs it More?

Learning Objectives: Students will learn that changes in the environment can have different effects on different organisms and the ways in which the physical environment is stressed by human activities. Students use reading skills and strategies to understand and communicate what they have learned from an informational text.

1. Begin by reviewing the concepts introduced in the **Text** pages *Room to Roam* & *Elephants & Us*.
2. Ask students if they know the definition of an animal's habitat. Record their observations on the chart paper, and then share this definition: ***An animal's habitat is the combination of resources (e.g., food, water) and environmental conditions (e.g., temperature) in an area that makes it possible for that species to survive and reproduce.***
You may also want to discuss relevant terms and definitions from the **Glossary**.
2. Discuss the four main elements of habitat: shelter, food, water, and space.
3. Ask students to imagine what they think would happen to a particular animal, such as an elephant, if just one of those elements is taken away.
4. Stress the interdependency of the four elements. It is no good, for example, if there is a lot of space, food, and shelter in an elephant's territory, but it can't get to its water hole because a big road is being built that splits the territory in half.
5. Distribute the Fictional Newspaper Handout: ***Road puts 1,000 elephants at risk.*** Explain that the article is fictional but is based on real events.
6. Have students read the article individually, in pairs or read aloud the article as a class.
7. Afterwards, ask students to describe what is happening to the elephants' habitat. What are the pros and cons of building the road? Record these in a T-chart:

| Pros | Cons |
|------|------|
| | |

6. Draw students' attention to the word ***fragmentation*** in the article. Explain that fragmentation is caused when large areas of habitat are broken up, in part, by human activity.
7. Divide the class into four groups. Give each group one of the following scenarios:
 - Geese who each year build their nest in the same spot can't do so any longer when a new skate park is built by their pond.
 - Bears lose access to their fishing ground when a new dam is built.
 - Polar bears have to swim farther and farther distances to find food and shelter because of melting ice caps.
 - Farmers spray their fields with insecticide to prevent their crops from being eaten.
8. Invite the groups to discuss their scenarios and challenge them to come up with a brief, three-minute skit illustrating the situation.
9. Have the groups perform the skits for the entire class.
10. Discuss how each scenario is a form of fragmentation. Which element(s) of habitat (food, water, shelter, or space) are affected in each scenario? What was the human activity that prompted the fragmentation? Are any of these scenarios good? Why or why not?

As homework or an extension lesson, invite small groups of students to research another endangered species or a species in your own region that has experienced habitat fragmentation. Then ask them to create a poster based on their research, including:

- how the fragmentation occurred,
- what elements of habitat were affected, and
- how the species has reacted.

Display the posters in the hallway so the whole school can learn from your students' research.

IFAW's Animal Action education program provides many different teaching guides, lessons and other materials to help your primary and secondary students achieve science, civics, geography and language arts objectives while building knowledge and understanding about animals and our shared environment. Visit our website: www.ifaw.org/education to download FREE education resources on a variety of themes, including:

Born to Be Wild
Saving the Majestic Tiger

Under One Sky
Why Animals Matter

Beneath the Waves
Protecting the Marine Environment

To the Rescue
Emergency Relief for Animals

Making Waves
For Seals

SOUTH INDIA Gazette

An IFAW publication • September 2011



Road puts 1,000 elephants at risk

New highway could cut through important wildlife habitat in southern India

The lives of more than 1,000 wild elephants are at risk from a road that could cut through their habitat in Southern India.

Wildlife groups believe that the road will cut through a corridor of land linking two wildlife reserves. The road will stop the elephants moving safely between the protected areas for foraging and breeding. Almost half of wildlife corridors in India already have highways passing through them.

It is crucial that something is done to help these elephants," said elephant expert Anand Kumar. "Today, there are only 25,000 wild Asian elephants remaining



in India. They are suffering greatly from poaching, habitat loss, and fragmentation. We must work with the government to protect this piece of land now."

"It is crucial that something is done to help these elephants."

– Anand Kumar, conservationist

The corridor between the two reserves is a narrow strip of land currently owned by local people. The land is not only used by elephants, but by animals such as leopards and tigers.

Government officials say the new highway would help connect villages to the north and south of the reserves.

However, a road cutting through the forest could threaten the ability of elephants to move safely between the protected areas, and it could also result in collisions between vehicles and animals straying onto or crossing the roadway.

Local villagers are divided in their views of the proposed road. Some want it built to help their area grow and allow them to reach nearby towns more easily.

Others are concerned that the road will split the corridor and that elephants may stray into local villages and fields looking for food. The elephants could destroy crops and endanger their families.

If the road is given the go-ahead by the government, work could begin within the next 18 months.

In the meantime, said Kumar, "We will be working to come up with solutions that not only protect the elephants' habitat, but that will help local people and the government too."