EDUCATOR'S GUIDE & ACTIVITIES

WILD CATS

with Kevin Richardson

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A WORD FROM THE FILMMAKERS

The digital revolution is transforming the way nature films are being made. The advent of small digital cameras is making it possible to capture the wildlife at very close range. Instead of positioning the viewer as a distant observer watching the scene through long lenses, we bring the audience right in the middle of the action. Using state-of-the-art 3D technologies for the production of *Wild Cats 3D*, we were able to enhance the sense of physical immersion like never before. I hope you will enjoy this up close and personal encounter with Africa's majestic cats.

Ben Stassen, Writer, Director & Producer

A WORD FROM THE NARRATOR

I'm always asked what it's like to interact so closely with the 'King of the Jungle.' With traditional filmmaking techniques, it has always been difficult to give the viewer an immersive experience, but with modern technology this becomes easier as the small cameras no longer disturb the animals and allow us to place them in unobtrusive positions. Now everyone can get to experience what it feels like to be me, interacting and observing these magnificent animals intimately, well…almost. It's important for me as a conservationist to get people excited about wanting to protect lions, and I think films like this help us to achieve this goal of protecting and creating awareness of plummeting lion populations.

Kevin Richardson, Narrator & Expedition Leader

FILM SYNOPSIS

The exciting new film *Wild Cats 3D* follows conservationists Kevin Richardson and Mara Douglas-Hamilton on a cross-continental expedition to some of Africa's last remaining wilderness areas. On their journey, they film the big African cats — the cheetah, leopard and lion — and share images that enable viewers to observe these magnificent animals playing, resting, eating and interacting socially in their environment. This glimpse into their world serves to remind viewers of the importance of preserving the habitat of these African wild cats.

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EDUCATOR'S INTRODUCTION

This Educator's Resource Guide is designed for use with students who view the new nWave Pictures Distribution release, *Wild Cats 3D*. The guide includes classroom activities for students in grades K-3 and corresponding activities for students in grades 4-8, as well as two activities designed for use with students in grades K-8.

EDUCATIONAL OBJECTIVES

- To introduce students to the different species of wild cats featured in *Wild Cats 3D* — the cheetah, leopard and lion.
- To inform students about where Africa's wild cats live by mapping the habitats visited in the film.
- To make students aware of the potential impact of humans on the populations of Africa's wild cats and to brainstorm ways to limit that impact.
- To educate students about the food chain that supports the wild cats and explore how changes in the food chain could affect their survival.

PRE-VIEWING DISCUSSION QUESTIONS

- Create a KWL graphic organizer on the chalkboard/whiteboard, with columns labeled "What I KNOW Already," "What I WANT to Find Out," and "What I LEARNED." Fill in the first column by asking students what they already know about African wild cats. Can they name some of the different wild cats? Do they know where they live? Invite students who have seen African wild cats at a zoo to describe what they look like and their behavior. Then fill in the second column of the organizer by asking students what they want to find out about African wild cats. Prompt discussion with suggestions such as, "What they eat," "How they grow up," and "How they live." Conclude by having students copy the organizer so they can fill in the final column after they have seen the film.
- Show students the African wild cat habitats on a globe or map. Ask them to describe the climate they expect to find there.
- How are wild cats like their relatives, domestic cats? How are they different?

POST-VIEWING DISCUSSION QUESTIONS

- Return to the KWL graphic organizer on the chalkboard/whiteboard to fill in the "What I LEARNED" column. Have students contribute facts and insights from their own notes on the film. What fact about Africa's wild cats most surprised them? What part of the film made them want to learn even more?
- Use the film to clarify students' understanding of the differences between the various types of African wild cats and the importance of conservation efforts in Africa.

ALIGNMENT WITH U.S. SCIENCE STANDARDS

	Grades	Grades	Activity					
	K-3	4-8	1	2	3	4	5	6
Life Sciences								
Structure and function in living systems	x	x		x			x	
Reproduction and heredity	x	x						
Regulation and behavior	x	x			x			x
Populations and ecosystems	x	x	x	x		x		
Diversity and adaptations of organisms	x	x		x				
Science as Inquiry								
Understandings about scientific Inquiry	x	x		x				
Personal and Social Perspectives								
Populations, resources, and environments	x	x		x		x	x	x

ALIGNMENT WITH NEXT GENERATION SCIENCE STANDARDS

	Grades	Grades	Activity					
	K-3	4-8	1	2	3	4	5	6
Life Sciences								
Structure, Function, and Information Processing	x	x			x			
Interdependent Relationships in Ecosystems	x	x	x			x	x	x
Natural Selection and Adaptations	x	x		x				
Social Interactions and Group Behavior	x	x		x				

ACTIVITY 1 LAND OF THE WILD CATS

FOR GRADES K-3

This activity invites students to join the conservationists Kevin Richardson and Mara Douglas-Hamilton on their expedition in the film. Students view the map and use the clues to identify the locations marked. You may want to review map-reading skills before students complete the activity. After seeing the film, students can fill in the circles once they have figured out the clues. Invite students to share their observations about each habitat identified. Ask: How are they alike? How are they different? What did you learn in the film about wild cat habitats?

ANSWERS

West to east on the map: 1, 6 (in Namibia); 3 (in Botswana); 5 (bordering Zambia and Zimbabwe); 4 (in Tanzania); 2 (bordering Kenya and Tanzania)

FOLLOW UP

Have students create a similar map of their school or town with marked locations left unlabeled but described with clues. Students can trade and figure out a friend's map.

FOR GRADES 4-8

In this activity, students use their map reading and geography skills to identify locations marked on the map. After students see the film and identify the locations, divide students into small groups to research each habitat. As a result of their research, students can create habitat information posters to display on a bulletin board.

ANSWERS

West to east on the map: 3-A, Namibia; 1-F, Namibia; 6-C, Botswana; 2-E, Zambia, Zimbabwe; 4-D, Tanzania; 5-B, Kenya, Tanzania

FOLLOW UP

Have students research local areas to see if any could be hospitable to wild cats — perhaps even a state park or nature preserve.

ACTIVITY 1 LAND OF THE WILD CATS

The exciting film *Wild Cats 3D* takes us on a long journey across Africa. Some of the places we visit are marked with empty circles on this map. Use your map-reading skills to identify each place by writing the correct number into each circle. After you see *Wild Cats 3D*, draw a line on the map to show the path we follow on our journey across Africa. Then write your own observations about each place in the spaces provided.

1. **The Great Sand Dunes**, on the coast of Namibia, tower as high as the Empire State Building.

   Observations: _____

2. **Mount Kilimanjaro**, near the border between Kenya and Tanzania, is the highest point in Africa.

   Observations: _____

3. **The Okavango Delta**, known as "the river that never finds the sea," flows into the Kalahari Desert in northern Botswana.

   Observations: _____

4. **Tarangire National Park** in northwestern Tanzania provides a protected habitat for leopards.

   Observations: _____

5. **Victoria Falls**, on the border between Zambia and Zimbabwe, is one of the Seven Natural Wonders of the World.

   Observations: _____

6. **The Waterberg Plateau** in central Namibia is the world's largest protected habitat for the cheetah.

   Observations: _____

ACTIVITY 1 LAND OF THE WILD CATS

In the exciting film *Wild Cats 3D*, conservationists Kevin Richardson and Mara Douglas-Hamilton take us on an expedition across Africa to learn about some of the continent's wild cats. Use this map to track their journey.

- First, identify the places they visit by filling in the correct letter to match each place name to its description. Look for context clues in each description to help you.
- Next, use your map-reading skills to fill in the missing country names in each description.
- Finally, mark the location of each place on the map by writing the correct number into each blank circle.

After you see *Wild Cats 3D*, draw a line on the map to show the path Kevin and Mara follow on their journey across Africa. Then write your own observations about each place in the spaces provided.

Place Names

A. Great Sand Dunes
B. Mount Kilimanjaro
C. Okavango Delta
D. Tarangire National Park
E. Victoria Falls
F. Waterberg Plateau

	Name	Description
1		This high, level area in central _____ is the world's largest protected habitat for the cheetah. **My Observations:** _____
2		Formed by the Zambezi River, at the border between _____ and _____, this is one of the Seven Natural Wonders of the World. **My Observations:** _____
3		Found along the Atlantic coast in _____, these landforms tower as high as the Empire State Building. **My Observations:** _____
4		This area in northwestern _____ provides a protected habitat for leopards. **My Observations:** _____
5		Located in _____, near the border with _____, this is the highest point in Africa. **My Observations:** _____
6		Formed by a waterway known as "the river that never finds the sea," this wetland area in northeastern _____ empties into the Kalahari Desert. **My Observations:** _____

ACTIVITY 2 BUILT FOR SPEED

FOR GRADES K-3

This activity introduces students to the magnificent cheetah, best known for its incredible speed. Have students read the facts about the cheetah and how it has adapted to run so fast. Then have students use the data provided to compare the outcomes when the cheetah hunts different prey. Have them fill in the bar graph showing the speeds of the cheetah and three different prey animals. In the **Field Notes** section, students can take notes on what they learn about cheetahs from the film.

ANSWERS

1. The cheetah's bar is the longest, which means it is the fastest.
2. The cheetah doesn't always catch its prey because it can only run very fast for about one minute.
3. The prey might survive if it can sustain its top speed for more than one minute.
4. A prey animal might be built for endurance with the stamina to run at top speed over a long period of time.

FOLLOW UP

Students can experiment by tracking their own speeds with different modes of movement. For example, they could time and graph the speed of a child walking, running, walking backwards, skipping, etc.

FOR GRADES 4-8

This activity introduces students to the magnificent cheetah, best known for its incredible speed. Have students read the facts about the cheetah and how it has adapted to run so fast. Then review the hunting scenario with students and the graph that compares the distance a cheetah can cover over a specified time period with the distance its prey can cover in the same time period. The graph illustrates the cheetah's dominance in hunting if it can catch its prey early in the chase. In the **Field Notes** section, students can take notes on what they learn about cheetahs from the film.

ANSWERS

1. The cheetah's line rises more steeply, stays steady for a shorter period of time, then drops quickly. The gazelle's line rises more slowly and then stays steady to the end.
2. The cheetah's speed increases faster, but it can maintain this top speed only for a short time before slowing down.
3. The gazelle's top speed is slower, but it can outlast the cheetah when it maintains this speed after the cheetah has slowed down.
4. When the lines cross, the animals are moving at the same speed.
5. In the wild, this means that if the gazelle can avoid being caught at the beginning of the chase, its stamina will help it avoid capture by the cheetah.

FOLLOW UP

Encourage students to select several animals for which data was not provided. They can research these animals and add their data to the chart to see how they might fare against a cheetah. How about a car? A train?

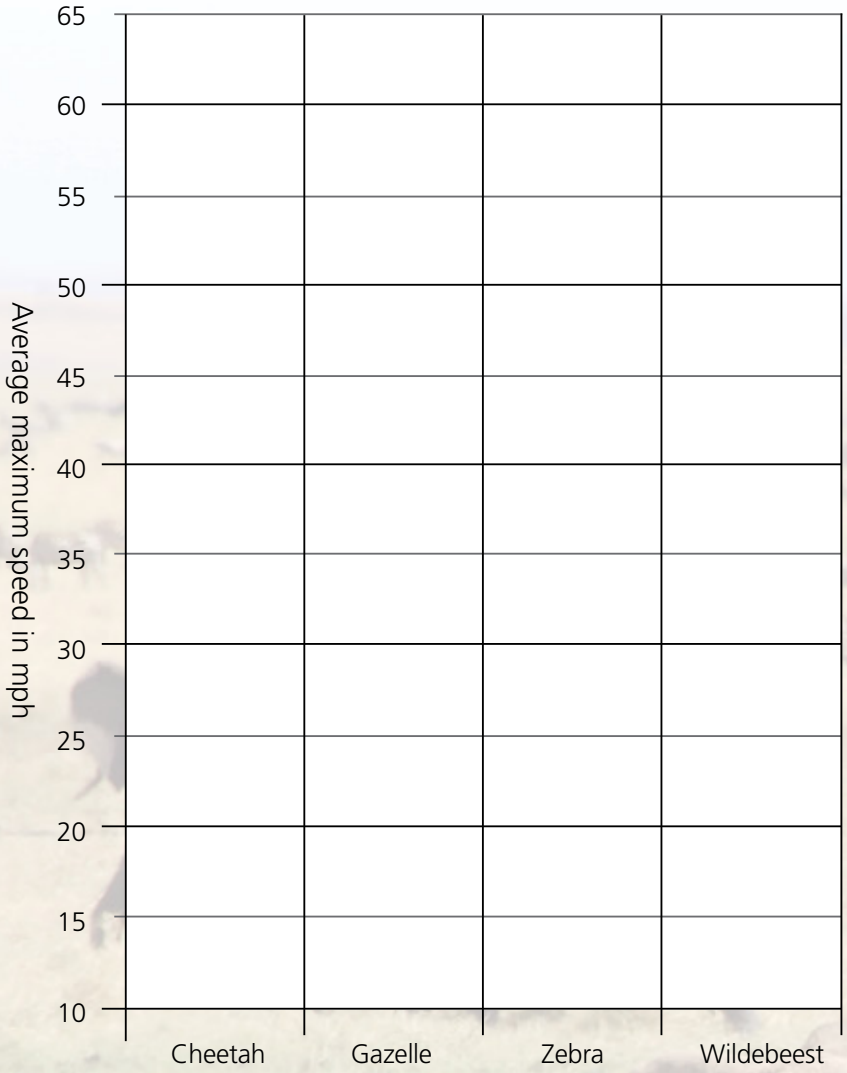
ACTIVITY 2 BUILT FOR SPEED

In the film *Wild Cats 3D*, you learned that the cheetah is the fastest land animal. A cheetah can reach 64 miles per hour in just three seconds. That's faster than most cars!

The cheetah is built for speed from its nose to its tail. The cheetah has large nostrils that help it get more air as it is running. It has large lungs and a large heart to provide bursts of power. The cheetah's legs are long and muscular, and its claws are always exposed to give it extra grip. The cheetah also has a long tail that helps it keep its balance on sharp turns during high-speed chases.

Cheetahs cannot run at top speed for more than one minute, so they must catch their prey quickly. Use the data provided below to create a bar graph comparing the speed of the cheetah and three animals that could be its prey. Then use your graph to answer the questions.

	Top Speed
Cheetah	64 mph
Thomson's gazelle	50 mph
Zebra	40 mph
Wildebeest	45 mph



GRAPH OBSERVATIONS:

1. The longest bar shows the fastest speed. Which bar is the longest? Which is the fastest of the animals?
2. If the cheetah is the fastest, why doesn't it catch the other animals every time there is a chase?
3. What might help the prey animals survive in a chase?
4. If a cheetah is built for bursts of speed, what might the prey animals be built for?

What else do you know about cheetahs after seeing *Wild Cats 3D*? Use this space to write your own field notes about what you learned.

WRITE YOUR FIELD NOTES BELOW:

ACTIVITY 2 BUILT FOR SPEED

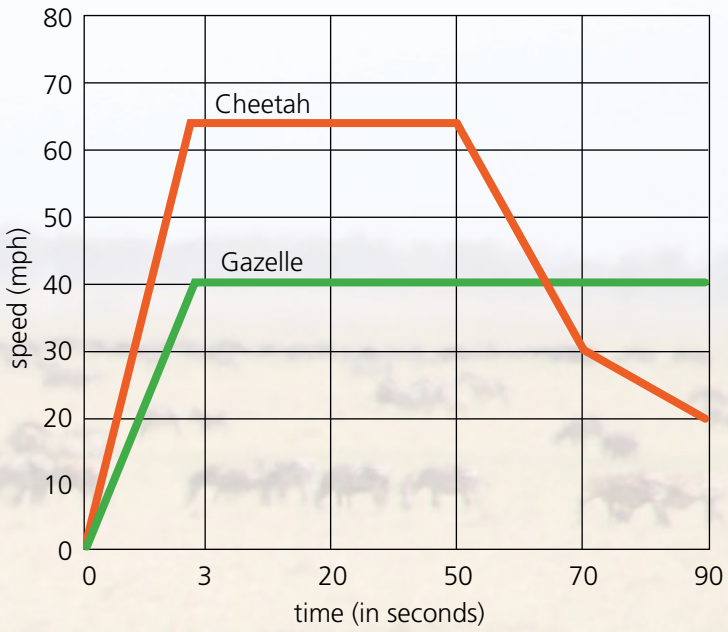
In the film *Wild Cats 3D*, you learned that the cheetah is the fastest land animal. A cheetah can reach 64 miles per hour in just three seconds. That's faster than most cars!

The cheetah is built for speed from its nose to its tail. The cheetah has large nostrils that help it get more air as it is running. It has large lungs and a large heart to provide bursts of power. The cheetah's legs are long and muscular, and its claws are always exposed to give it extra grip. The cheetah also has a long tail that helps it keep its balance on sharp turns during high-speed chases.

Cheetahs cannot run at top speed for more than one minute, so they must catch their prey quickly. This graph shows why. It compares the speed of a cheetah with the speed of a Thomson's gazelle as the cheetah chases the gazelle. Use the graph to answer the questions below.

x-axis: time in seconds 0-90
y-axis: speed in mph

Cheetah vs. Thomson's Gazelle



GRAPH OBSERVATIONS:

1. What do you notice about the two lines?
2. What happens to the cheetah's speed over time?
3. What happens to the gazelle's speed over time?
4. What happens when the lines cross?
5. What does this mean in the wild?

What else do you know about cheetahs after seeing *Wild Cats 3D*? Use the space to the right to write your own field notes about what you learned.

FIELD NOTES:

ACTIVITY 3 HARD TO SPOT

FOR GRADES K-3

Leopards are perhaps the most elusive of the wild cats featured in *Wild Cats 3D*. In this activity, students use their knowledge of leopards to fill in the missing letters in the underlined words on the activity sheet. In the **Field Notes** section, students can take notes on what they learn about leopards from the film. Encourage students to write several questions or statements, using what they learned, with letters missing from one of the words. Then students can trade with a classmate and complete the paragraphs.

ANSWERS

Leopards are found in many parts of Africa as well as southern and eastern parts of Asia. They can adapt to different habitats, but the habitat must have enough animals for them to hunt and enough trees, grass, or other plants to hide in when they are hunting.

Leopards are very good hunters. They can run up to 36 miles per hour and have powerful jaws that can kill instantly with one bite to the throat. In addition, they are covered with spots, called rosettes, which help them blend into their surroundings and sneak up on their prey. Leopards like to climb trees and sometimes drop down on their prey from a limb. Afterwards, leopards often carry the animals they kill up into a tree, to keep them safe from other predators.

FOLLOW UP

Guide students through a quest to learn more about leopards or other big cats using the resource list on page 19. With guidance, students can practice research skills and perhaps become involved in efforts to protect these big cats. As conservationist Kevin Richardson says, "People don't care for something they know little about." Students may decide to get involved in education efforts regarding conservation.

FOR GRADES 4-8

Leopards are perhaps the most elusive of the wild cats featured in *Wild Cats 3D*. In this cloze reading activity, students use their knowledge of leopards to fill in the blanks on the activity sheet using the words from the word bank. In the **Field Notes** section, students can take notes on what they learn about leopards from the film. Next, encourage students to write cloze passages using what they learned from the movie. Then students can trade with a classmate and complete the paragraphs.

ANSWERS

The leopard is one of the "big cats," along with the tiger, lion, jaguar, cougar, cheetah and snow leopard. Its name comes from the Greek roots for lion and panther. Leopards are successful hunters for a variety of reasons. They can run up to 36 mph and can climb trees, even carrying a carcass. Their large skulls and powerful jaw muscles help them kill large prey. In addition, they are covered in spots, called rosettes, which help camouflage them.

Leopards are found in many parts of Africa as well as southern and eastern parts of Asia. They are able to adapt to different habitats, but in order to thrive, they need habitats with enough prey to hunt and with ample vegetation to act as camouflage for their hunting. While they are adaptable, their populations are affected by loss of habitat and hunting. Some are killed because they are considered pests, others for their pelts.

FOLLOW UP

Share the resource list on page 19 with students so they can compile additional research on leopards and the other big cats. As conservationist Kevin Richardson says, "People don't care for something they know little about." Students may decide to get involved in education efforts regarding conservation.

Photo by Steve Garvie

ACTIVITY 3 HARD TO SPOT

In the film *Wild Cats 3D*, you learned a lot about the powerful leopard. Read the following paragraph and use what you learned as well as context clues to complete the words by filling in the missing letters.

Leopards are found in many parts of __fric__ as well as southern and eastern parts of __si__. They can adapt to different h__bit__ts, but the h__bit__t must have enough __nim__ls for them to hunt and enough tr__ __s, gra __ __, or other plants to hide in when they are h__nting.

Leopards are very g__ __d hunters. They can r__n up to 36 miles per hour and have p__werful jaws that can k__ll instantly with one b__te to the throat. In a__ __ition, they are covered with sp__ts, called *rosettes*, which h__lp them blend into their su__ __oundings and sneak __p on their prey. Leopards like to climb tr__ __s and sometimes dr__p down on their pr__y from a limb. Afterwards, leopards often ca__ __y the animals they k__ll up into a tree, to k__ __p them safe from other predators.

What else do you know about leopards after seeing *Wild Cats 3D*?
Use this space to write your own field notes about what you learned.

FIELD NOTES:

_____

_____

_____

_____

_____

Photo by Bernard Dupont

ACTIVITY 3 HARD TO SPOT

In the film *Wild Cats 3D*, you learned a lot about the powerful leopard. Read the following paragraphs and use what you learned as well as context clues to complete the paragraphs by filling in the blanks with words from the word bank.

WORD BANK

camouflage carcass cheetah habitat pelts prey rosettes skulls trees

The leopard is one of the "big cats," along with the tiger, lion, jaguar, cougar, _____, and snow leopard. Its name comes from the Greek roots for *lion* and *panther*. Leopards are successful hunters for a variety of reasons. They can run up to 36 mph and can climb _____, even carrying a _____. Their large _____ and powerful jaw muscles help them kill large prey. In addition, they are covered in spots, called _____, which help camouflage them.

Leopards are found in many parts of Africa as well as southern and eastern parts of Asia. They are able to adapt to different habitats, but in order to thrive, they need habitats with enough _____ to hunt and with ample vegetation to act as _____ for their hunting. While they are adaptable, their populations are affected by loss of _____ and hunting. Some are killed because they are considered pests, others for their _____.

What else do you know about leopards after seeing *Wild Cats 3D*? Use this space to write your own field notes about what you learned.

FIELD NOTES:

_____

_____

_____

_____

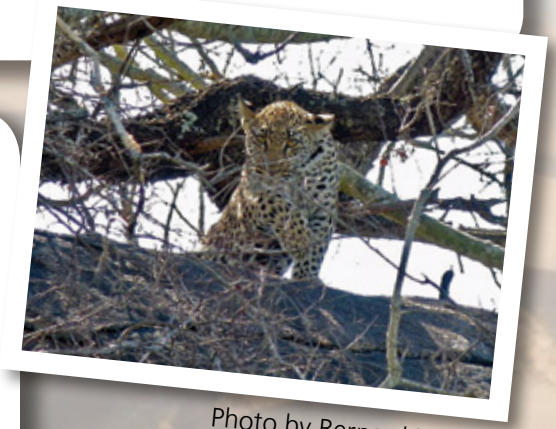


Photo by Bernard Dupont

ACTIVITY 4 AFRICAN PRIDE

FOR GRADES K-3

The regal lion is one of the wild cats that students learn about in the film. Additional information about lions to share with students: Lions are the second largest living cat after the tiger, with weights reaching 550 lbs. Once widely distributed, lions' population declined 30-50% over the second half of the 20th century. Causes of decline include loss of habitat and resulting interaction with humans. The lifespan of males in the wild is no more than 10-14 years, which is shorter than in captivity because of the fighting that occurs within the social structure. A group of lions, known as a *pride*, usually has a few male lions, a group of related females, and their offspring. The male cubs must leave the pride around age 2-3 when they reach maturity. Lions that are not part of a pride are called *nomads*. Lions prefer to scavenge dead animals, but the females will also hunt. The males usually stay to protect the pride while the more agile females hunt as a group.

In this activity, students complete a true or false quiz about lions and rewrite false statements to make them true.

ANSWERS

1-F (Lions do not usually hunt on farmland. They will when they have no other choice.); 2-T; 3-F (Scientists believe that about 20,000 lions still roam free.); 4-F (After killing prey, lions will stay with the carcass until it is completely eaten, even though they might take breaks.); 5-F (Lions are social and usually live in groups called prides.); 6-T; 7-F (Lion cubs are "grown up" at 2-3 years old.); 8-T

FOLLOW UP

Lions have always coexisted with humans. They are present in artwork, fables, ancient stories and myths from a number of cultures. Using the resources on page 19, share some of these with students, then encourage students to write their own lion fable.

FOR GRADES 4-8

The regal lion is one of the wild cats that students learn about in the film. Additional information about lions to share with students: Lions are the second largest living cat after the tiger, with weights reaching 550 lbs. Once widely distributed, lions' population declined 30-50% over the second half of the 20th century. Causes of decline include loss of habitat and resulting interaction with humans. The lifespan of males in the wild is no more than 10-14 years, which is shorter than in captivity because of the fighting that occurs within the social structure. A group of lions, known as a *pride*, usually has a few male lions, a group of related females, and their offspring. The male cubs must leave the pride around age 2-3 when they reach maturity. Lions that are not part of a pride are called *nomads*. Lions prefer to scavenge dead animals, but the females will also hunt. The males usually stay to protect the pride while the more agile females hunt as a group.

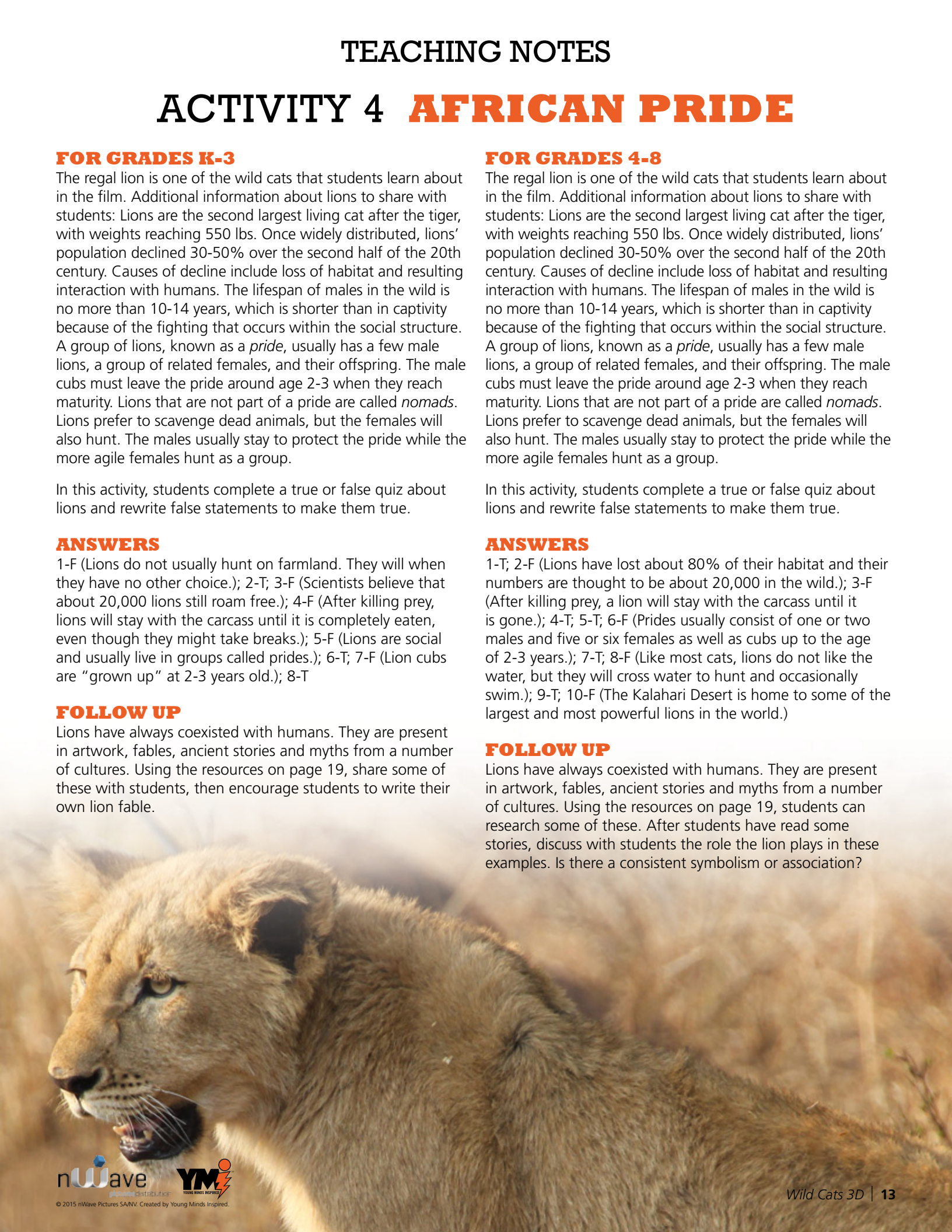
In this activity, students complete a true or false quiz about lions and rewrite false statements to make them true.

ANSWERS

1-T; 2-F (Lions have lost about 80% of their habitat and their numbers are thought to be about 20,000 in the wild.); 3-F (After killing prey, a lion will stay with the carcass until it is gone.); 4-T; 5-T; 6-F (Prides usually consist of one or two males and five or six females as well as cubs up to the age of 2-3 years.); 7-T; 8-F (Like most cats, lions do not like the water, but they will cross water to hunt and occasionally swim.); 9-T; 10-F (The Kalahari Desert is home to some of the largest and most powerful lions in the world.)

FOLLOW UP

Lions have always coexisted with humans. They are present in artwork, fables, ancient stories and myths from a number of cultures. Using the resources on page 19, students can research some of these. After students have read some stories, discuss with students the role the lion plays in these examples. Is there a consistent symbolism or association?



ACTIVITY 4 AFRICAN PRIDE

You learned many facts about lions in the film *Wild Cats 3D*. Test your knowledge with this quiz. Read each statement. If the statement is true, circle T. If the statement is false, circle F and rewrite the statement so that it is true.

1. Lions usually hunt on farmland. It is their favorite place to hunt. T F

_____

2. If a lion eats an animal from a person's farm, sometimes the person will kill the lion. This is a major reason why the population of lions is dropping. T F

_____

3. Lions are losing their habitat. This is another reason why the population of lions is dropping. T F

_____

4. After killing prey, a lion will eat until it is full and then abandon the carcass. T F

_____

5. Lions usually live and travel alone. T F

_____

6. Like all cats, lions do not usually like water, but sometimes they swim to travel, hunt, or just have fun. T F

_____

7. Lion cubs are "grown up" when they reach age 18, just like humans. T F

_____

8. Lions sometimes play with sticks, just like dogs. T F

_____

ACTIVITY 4 AFRICAN PRIDE

You learned many facts about lions in the film, *Wild Cats 3D*. Test your knowledge with this quiz. Read each statement. If the statement is true, circle T. If the statement is false, circle F and rewrite the statement so that it is true.

1. Lions hunt on farmland only when they are forced to do so. T F

_____

2. Lions have lost about 20% of their habitat, and their numbers are thought to be about 80,000 in the wild. T F

_____

3. After killing prey, a lion will eat until it is full and then abandon the carcass for other scavengers. T F

_____

4. A lion may eat as much as 35kg of meat in one sitting. T F

_____

5. Lions are the most social of the big cats, usually living in groups called *prides*. T F

_____

6. Prides usually consist of an equal number of males and females as well as cubs up to the age of 8 years. T F

_____

7. When lions are not part of a pride, they are called *nomads*. T F

_____

8. Unlike most cats, lions love the water, spending as much as 5 hours a day playing in the water. T F

_____

9. Lions are often killed in retaliation for hunting domestic animals, especially because they will stay with the prey no matter what. T F

_____

10. Only a few lions live in the Kalahari Desert. T F

_____

ACTIVITY 5 RACE FOR SURVIVAL

FOR GRADES K-8

As students learn in the film *Wild Cats 3D*, Africa's growing human population is threatening the survival of the continent's wild cats. This activity focuses on four types of human-animal interaction that pose a direct threat to the wild cats. Have students read the paragraphs describing these threats (or read the paragraphs aloud with younger students), then lead a class discussion in which students brainstorm ways to reduce each threat, drawing on what they learned from the film. In upper grades, divide the class into small groups that each focus on one of the threats described on the activity sheet and use some of the resources listed on page 19 to report on how conservation organizations around the world are working to protect Africa's wild cats from extinction.

FOLLOW UP

Organize a class debate on the competing arguments for human development and habitat preservation in Africa. Use the debate format to help students recognize that both sides in this ongoing controversy have strong claims to the continent's natural resources. You might also use this format to have students test their ideas for reducing human-based threats to Africa's wild cats — are they practical? Can they be adopted without posing a threat to human development?

ACTIVITY 6
FOLLOWING THE FOOD CHAIN

FOR GRADES K-8

This activity helps students understand the concept of a food chain as a way to diagram the transfer of energy through an ecosystem from plant-eating animals to the predators that eat them. Have students complete the diagram shown on the activity sheet by writing the names of the animals listed into their proper places. Then provide time for students to use the resources listed on page 19 to research other animals that live on the African savanna and add their names to the diagram. The activity concludes with three discussion questions that explore various possible changes to the savanna ecosystem and how they would likely affect the food chain. Use these questions to lead a class discussion, or have students work in small groups to research each question and report what they learn to the class.

FOLLOW UP

Invite students to consider the food chain of which they are a part. Even though most Americans do not kill their own food, we are still a part of a food chain. In fact, humans are apex predators in any ecosystem. Have students draw a diagram like the one on the activity sheet, showing where their food comes from. (For older students, this provides an opportunity for research. For younger students, it reinforces sequencing and cause and effect.) Once students have made their own food chain, ask them to consider what happens if part of that chain breaks down or cannot supply the next level.

ACTIVITY 5 RACE FOR SURVIVAL

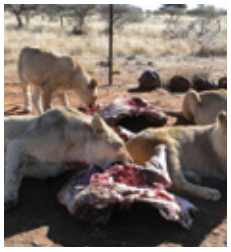
As you learned in the film *Wild Cats 3D*, humans are the cause of most of the threats to wild cat populations in Africa. As the population of humans grows, the effect on nature, including animals, increases. The following paragraphs describe some of the ways wild cat populations are being affected. Read each paragraph, then follow your teacher's instructions as you brainstorm ways to reduce the impact of humans.

1: LAND

As we learned from Kevin Richardson in the film's introduction, Africa's human population is expected to double from 1 billion to 2 billion within the next few decades. When the population grows, humans need more space for cities, towns and villages, and often move into wild cat habitat to get this space. In addition, to grow more food, humans often convert wild cat habitat to farmland. This loss of habitat affects the prey animals as well.

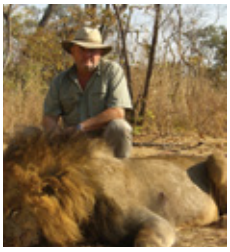
2: WATER

To increase the water supply for homes, farms, factories and power plants, humans are creating dams and channels that divert water from the natural habitats of the wild cats. Even the mighty Victoria Falls is in danger from such plans. Without ample water, the cats cannot survive. The animals that make up their prey are threatened by dwindling water resources as well.



3: CONTACT

As a result of their shrinking habitat, wild cats are more often in contact with humans and domesticated animals. When the cats kill these animals for food, humans often retaliate or even kill the cats as a precaution. For many people living near their habitat, wild cats are dangerous pests.



4: HUNTING

Human hunters also pose a threat to wild cat populations, whether they are tourists hunting for a trophy or poachers hunting wild cats for their valuable pelts.

BRAINSTORMING NOTES:

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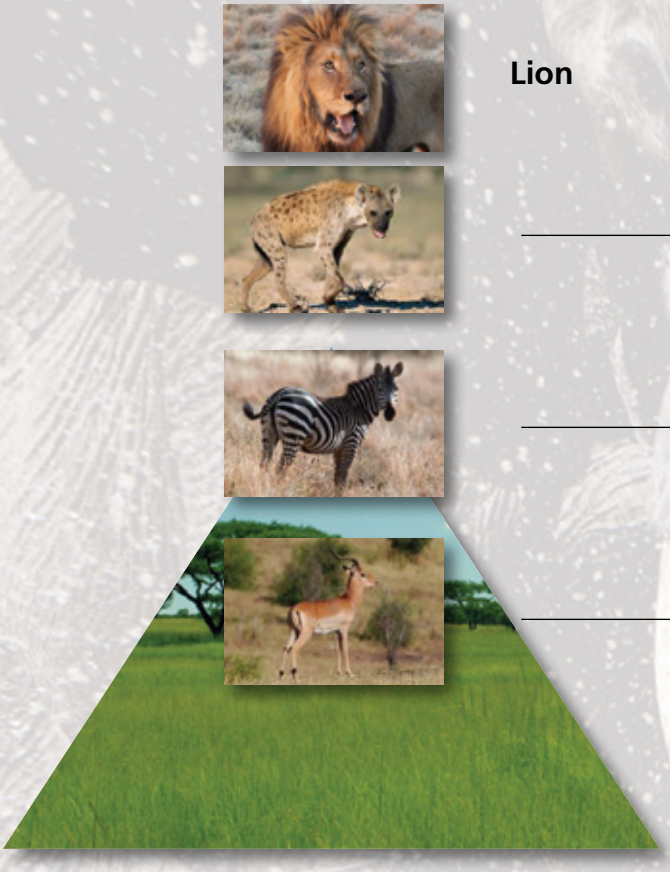
ACTIVITY 6

FOLLOWING THE FOOD CHAIN

A food chain diagram shows how energy is transferred through an ecosystem from plant-eating animals to the predators that eat them. The animal at the top of the food chain is a predator that has no natural predators in its ecosystem, like the lions living in an African savanna. But when there is a problem anywhere in the food chain, even the animal at the top of the chain can be affected.

Complete this diagram of the food chain in an African savanna. Write the names of the animals listed below into their correct places on the food chain. Then research to learn about other animals that live in the savanna ecosystem and add their names to show where they belong in the food chain.



Grasslands

Lion

_____

_____

_____

Hyena **Zebra** **Impala**

The apex consumer, the lion, eats primary and secondary consumers and has no predators.

The secondary consumer eats herbivores and other secondary consumers.

_____

_____

The primary consumer is an *herbivore*, an animal that eats only plants.

_____

_____

_____

_____

DISCUSSION NOTES:

Use your food chain diagram to discuss these topics in class. Use the space provided to take notes on your class discussion.

1. What could happen to the savanna food chain if human development of the land caused a decline in the population of plants? How might the animals in this ecosystem adapt?
2. What could happen to the food chain if farmers added cattle to the ecosystem? How might the other animals in the food chain adapt?
3. What could happen if hunters reduced the number of lions at the top of the food chain? How would the other animals in the food chain adapt?

_____

_____

RESOURCES

African Wildlife Foundation
http://www.awf.org/

Defenders of Wildlife
http://www.defenders.org/african-lion/basic-facts

Cheetah Conservation Fund
http://cheetah.org/

International Union for Conservation of Nature (IUCN)
Cat Specialist Group: http://www.catsg.org/
Red List of Threatened Species: http://www.iucn.org/about/work/programmes/species/our_work/the_iucn_red_list/

National Geographic
Cheetah: http://animals.nationalgeographic.com/animals/mammals/cheetah/
Leopard: http://animals.nationalgeographic.com/animals/mammals/leopard/
Lion: http://animals.nationalgeographic.com/animals/mammals/african-lion/
Big Cats Initiative: http://animals.nationalgeographic.com/animals/big-cats-initiative/get-involved/

National Geographic Kids
http://kids.nationalgeographic.com/animals/lion/#lion-male-roar.jpg

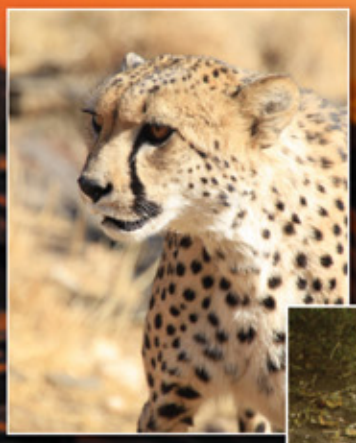
Wildlife Conservation Society: Big Cats
http://www.wcs.org/saving-wildlife/big-cats.aspx

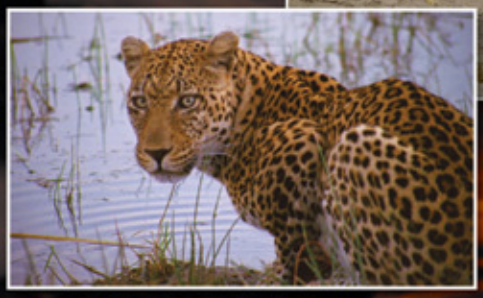
World Wildlife Fund
http://www.worldwildlife.org/species

Join the "Lion Whisperer" for an Unforgettable Journey

WILD CATS

with Kevin Richardson





An nWave Pictures film

An nWave Pictures Distribution release

A Film Written, Produced and Directed by Ben Stassen

Narrated by Kevin Richardson

For additional educational resources, games and online activities, please log on to WildCats.nWave.com

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