

A VOICE FOR THE CHEETAH



Adventure

Conservation

Education



An Activity
Guide for
**Intermediate
Elementary
Students
(United States)**

**Upper Primary
Learners
(Namibia)**

www.cincinnati-zoo.org
www.cheetah.org

In Our Hands



The wide eyes of young American students settle on spots as a cheetah enters the classroom. Sahara purrs loudly into a microphone and rubs her head against her trainer's hand. She is an important member of the Cincinnati Zoo and Botanical Garden's Cat **Ambassador** Program (CAP). An **ambassador** for her species, she stands tall and proud, and her trainer tells the students about cheetahs.

In Namibia, a country in southern Africa, many children who share their land with the cheetah have never actually seen one. During a visit to the Cheetah **Conservation** Fund's (CCF) Education Centre, they are fascinated as Chewbaaka strolls into view. Orphaned as a cheetah cub, Chewbaaka now lives to tell the

cheetah's tale to Namibian youth. The Zoo and CCF have teamed up to teach people around the world that we must work together to save the cheetah.

The story begins more than 15 years ago when two women, Cathryn Hilker and Laurie Marker, met. They discovered they shared the same passion—a love for the cheetah—and both had dedicated their lives to saving the cheetah and its **habitat**. Unique among all creatures as the fastest land animal, the cheetah plays an important role as **predator** in a healthy **ecosystem**. Less than 15,000 cheetahs remain in the wild. **Habitat** loss and conflict with people threaten the cheetah's survival. It was obvious that the cheetah needed a helping hand.

They knew they had to reach out to the people who share their land with cheetahs to save the species. Working at the Zoo, Cathryn Hilker established the Angel Fund to raise money for cheetah **conservation**. Laurie Marker moved to Namibia and created CCF in 1990. With support from the Angel Fund, she purchased



Laurie Marker (standing) and Cathryn Hilker (seated on table) have a passion for saving the cheetah and its habitat.



Throughout this guide, you will notice that certain words are **highlighted in color**. Turn to page 15 to read a definition of the word in the glossary.

the land that currently houses CCF headquarters in 1994.

Forced out of national parks by other **predators**, most cheetahs in Namibia live on farmlands. Many farmers do not want cheetahs there because they might hunt livestock. CCF works with farmers to find ways to keep cheetahs from taking livestock without having to remove them from the land. The livestock guarding dog program is one solution. CCF gives Anatolian shepherd puppies to farmers. Growing up with the herd, the dog bonds to the livestock and guards it from **predators**.

The survival of the cheetah also depends on you. If enough people care about saving the cheetah, there is hope for its survival. The story of the cheetah continues with you. What will you do to help the cheetah?



ANATOLIAN SHEPHERD




Afrikaans - ombwa yokulifa
Oshiwambo - gidshond

The Anatolian shepherd is an ancient breed of Turkish guard dog used worldwide to guard livestock from **predators**, including the cheetah in Namibia.

- **Height:** 27-32 in (71-81 cm)
- **Weight:** 80-160 lbs (36-73 kg)

CHEETAH

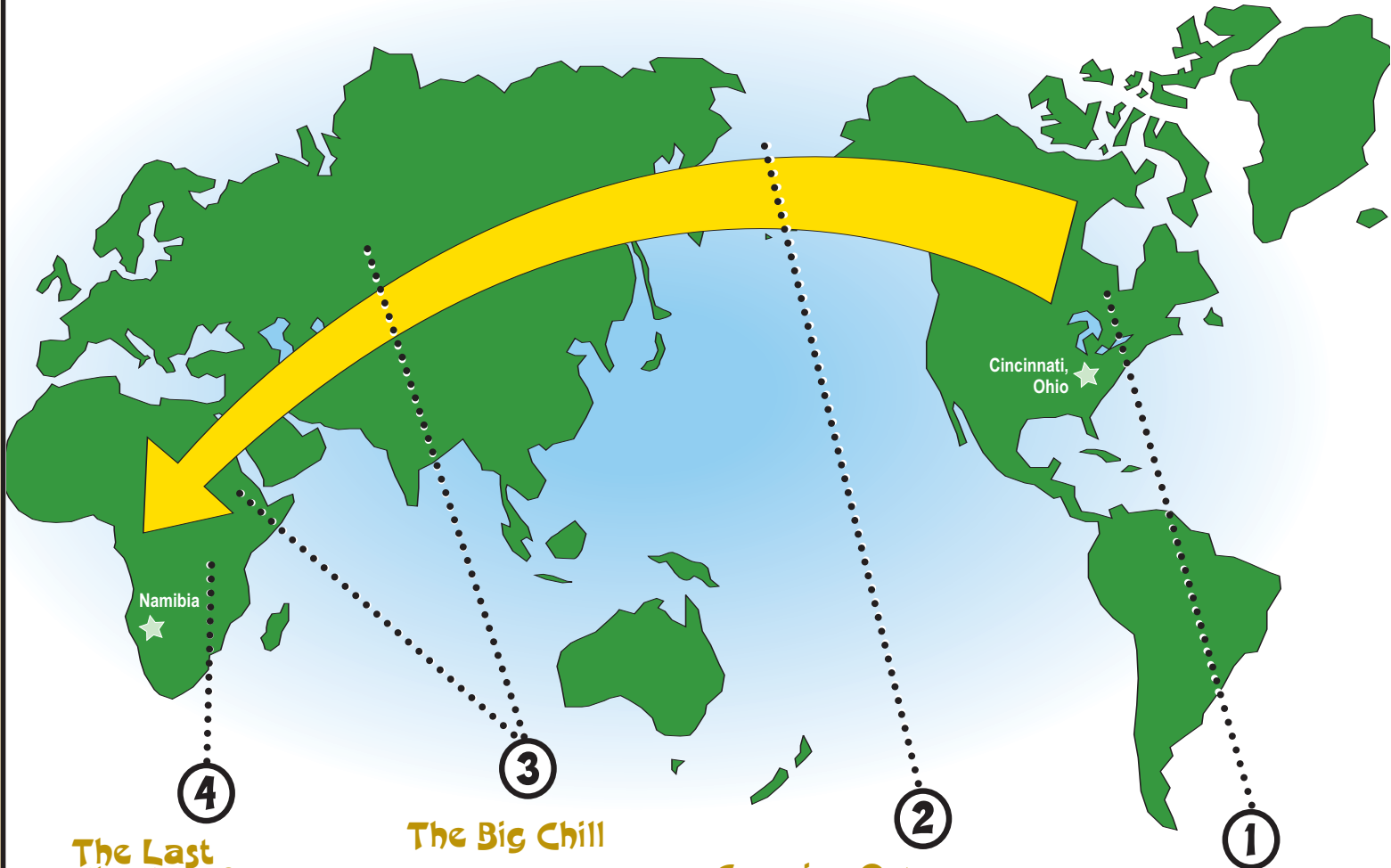
The fastest animal on land, the cheetah can reach speeds up to 70 mph (110 kmph). Sadly, this endangered cat is also one of the fastest disappearing animals. Less than 15,000 cheetahs remain in the wild.

- **Scientific Name:** *Acinonyx jubatus*
- **Range:** Pockets in Africa and Iran
- **Habitat:** **Savannah**, bushveld, farmland
- **Weight:** 80-120 lbs (36-55 kg)
- **Height:** 30 in (75 cm)
- **Prey:** Small antelope, young of large antelope, warthog, hare, game birds
- **Status:**  **SPECIES@RISK** (**Vulnerable** on the World Conservation Union's Red List; **Endangered** on the U.S. **Endangered** Species List)

Afrikaans - jagluiperd
Oshiwambo - etotongwe



Cheetahs through Time



4 The Last Cheetahs?

Today, cheetahs survive only in 24 African countries and one Asian country, Iran. The cheetah population has fallen from over 100,000 just a century ago to less than 15,000 today.

3 The Big Chill

About 10,000 years ago, Earth suffered through the Great Ice Age. Cheetahs disappeared from all continents except Africa and Asia.

2 Crossing Over

At one time, the continents were still connected by "land bridges." Cheetahs crossed the bridge from North America into Asia and spread throughout Europe and Africa more than 15,000 years ago.

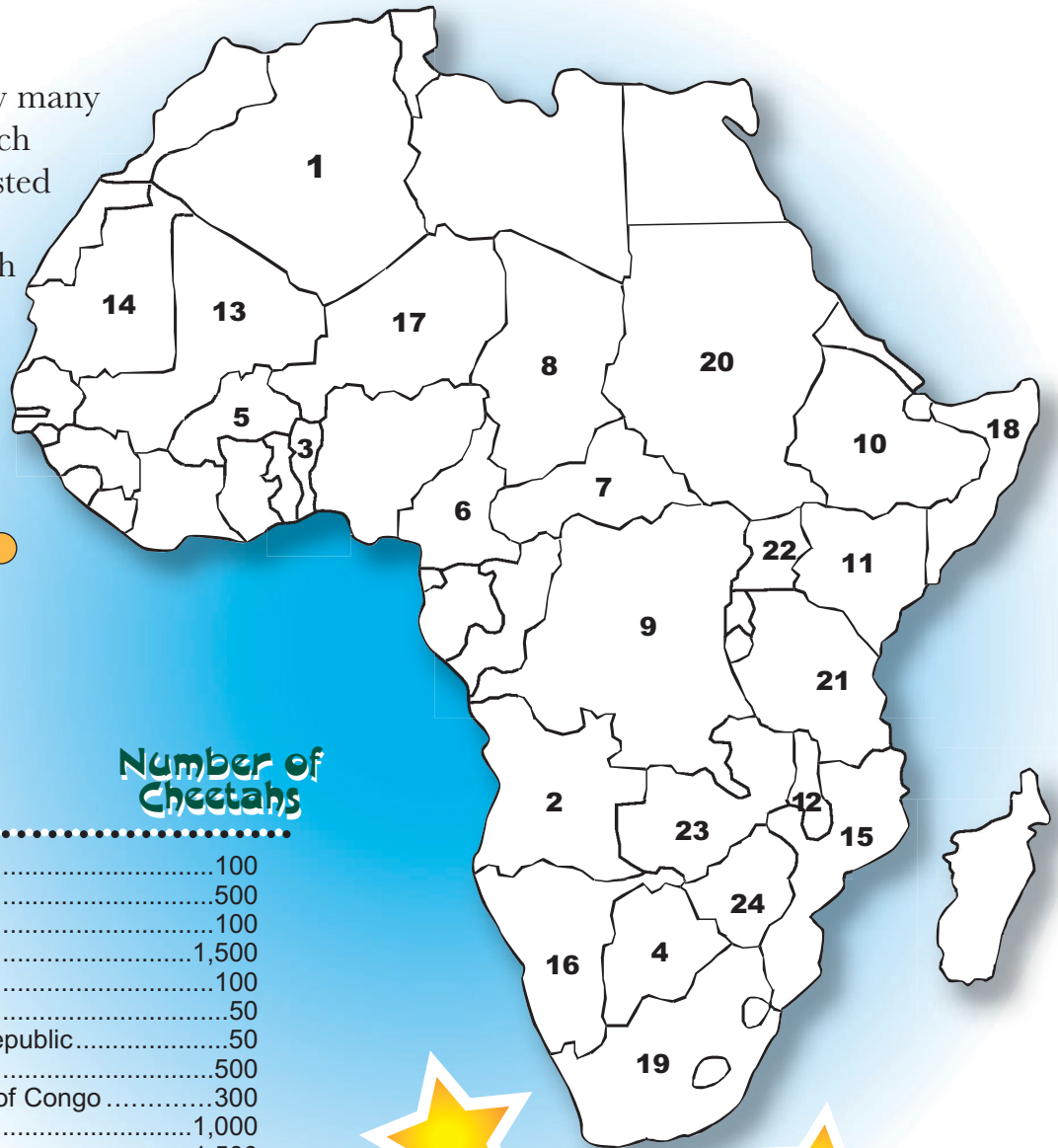
1 The First Cheetahs

Studies show that cheetah's ancestors first appeared on Earth during Prehistoric times, more than three million years ago, in North America.

Where Cheetahs are TODAY

The best guess of how many cheetahs survive in each African country are listed below. Color in each numbered country with the color that shows how many cheetahs live there according to this code:

- 2,000-3,000 = Red ●
- 1,000-1,999 = Yellow ●
- 500-999 = Green ●
- 1-499 = Blue ●



Country	Number of Cheetahs
1 Algeria	100
2 Angola	500
3 Benin	100
4 Botswana	1,500
5 Burkina Faso	100
6 Cameroon	50
7 Central African Republic	50
8 Chad	500
9 Democratic Rep. of Congo	300
10 Ethiopia	1,000
11 Kenya	1,500
12 Malawi	100
13 Mali	500
14 Mauritania	500
15 Mozambique	100
16 Namibia	2,500
17 Niger	500
18 Somalia	300
19 South Africa	1,000
20 Sudan	1,500
21 Tanzania	1,500
22 Uganda	300
23 Zambia	100
24 Zimbabwe	1,000

Which country is home to the largest cheetah population?

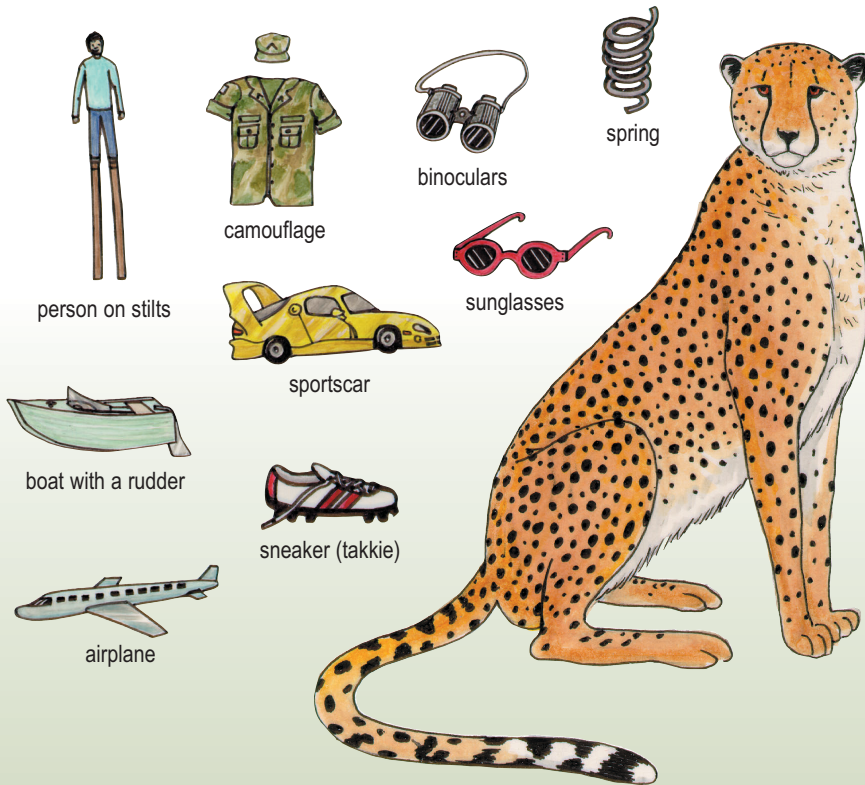
is the cheetah capital of the world!



Population numbers based on estimates as of 2003

Built for Hunting Prey

Draw a line to match the objects to the body part or **adaptation** on the cheetah that it represents. Use the CLUES to help.



CLUES

- The cheetah's streamlined body shape is long and thin, which helps it move through the air with ease while running.
- Claws and ridges on the bottom of the cheetah's feet dig into the ground and provide traction.
- Long legs let the cheetah cover a great distance in a single stride.
- The dark tear mark below the cheetah's eyes attracts the sunlight and keeps the glare of the sun out of its eyes.
- Fantastic vision allows the cheetah to spot prey from as far as 3 miles (5 km) away.
- The cheetah accelerates quickly, reaching up to 70 mph (110 kmph) within four seconds.
- A tawny coat with black spots helps the cheetah hide in the grasses.
- The cheetah swings its long tail to one side to steer its body in the right direction and keep its balance.
- A flexible spine allows the cheetah to stretch out its body while running.

What's for Dinner?

The cheetah is a **predator**. Some of its favorite **prey** animals are pictured below. The animals' names are written in Afrikaans and Oshiwambo, two common languages spoken in Namibia. Rearrange the letters to discover the correct English name for each animal.



Duuk

Xyro

Gtrawoh

Breshteeta

Bgskoinrp

Eoentskb

1

2

3

4

5

6

Afrikaans
Koedoe

Afrikaans
Gemsbok

Afrikaans
Vlakovark

Afrikaans
Hartebeest

Afrikaans
Springbok

Afrikaans
Steenbok

Oshiwambo
Oholongo

Oshiwambo
Osino

Oshiwambo
Ompinda

Oshiwambo
Ohumba

Oshiwambo
Omenye

Oshiwambo
Okapundja

Skillful Hunter

Cheetahs are among the best hunters. They catch **prey** about 50% of the time. This is much more successful than other **predators** such as lions, which catch **prey** only about 30% of the time. Read on to learn the secrets of the cheetah's success.

Spotting Prey

Standing atop a termite mound or climbing up into a tree, the cheetah finds a good place from which to scan the landscape for **prey**.

Closing In

Selecting a target, the cheetah approaches the **prey** at a walk or slow run. Often it crouches to blend in with the grasses and stalks an unsuspecting victim.

The Chase is On

Once the **prey** notices the cheetah, it takes off running. This triggers the cheetah to burst into full speed after it. The cheetah must get within striking distance quickly. It can only keep up its speed for a short time—less than 30 seconds—before it must rest.

A Quick Trip

Reaching out its front paw and strong dewclaw, the cheetah swipes at the **prey's** hind legs to trip and knock it to the ground.

The Chokehold

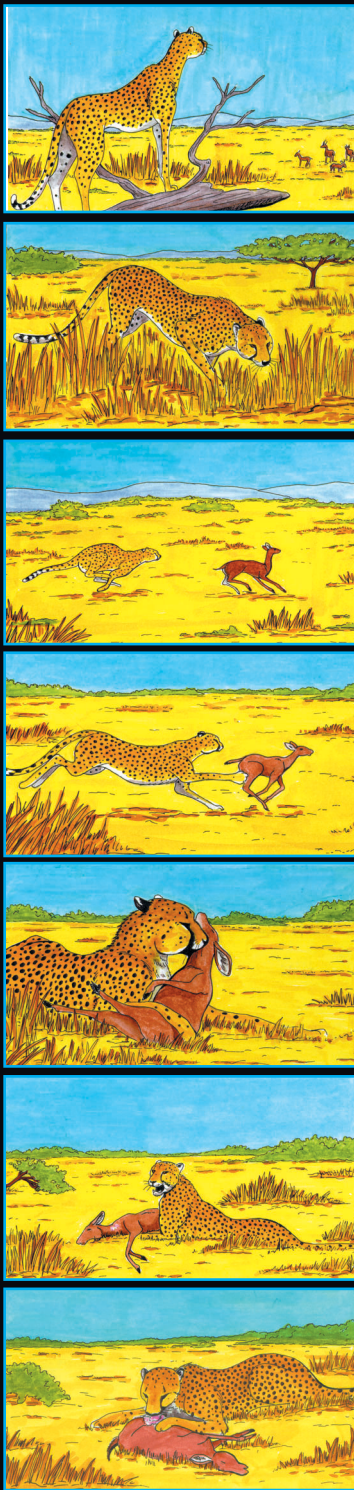
Biting down on the animal's throat, the cheetah closes off the **prey's** windpipe and suffocates it.

Taking a Break

Exhausted and in danger of overheating from the chase, the cheetah lays down for up to 30 minutes to recover before it begins to eat.

Dinner is Served

Starting with the animal's hindquarters, the cheetah feasts. It gorges itself on the meat, eating as much as it can as quickly as possible. Unable to defend its kill, the cheetah leaves behind its leftovers to scavengers if not first ran off by lions or hyenas.

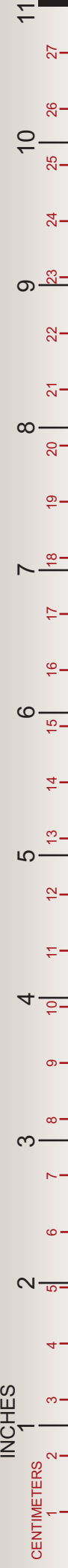
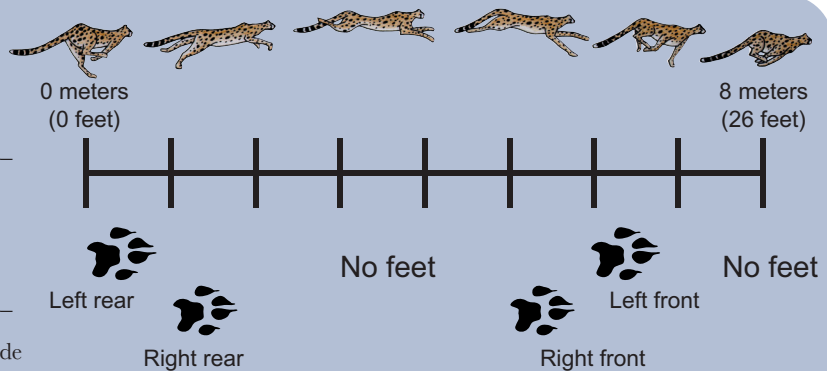


Compare Your Speed to a Cheetah's

• A cheetah can sprint across a distance of 92 feet (28 m) in a single second. How long does it take you to cover the same distance?

• A cheetah covers 26 feet (8 m) in one stride. How much distance can you cover in a single stride?

(A stride is one cycle of footsteps. For a person, a stride is stepping forward with one foot and then the other.)

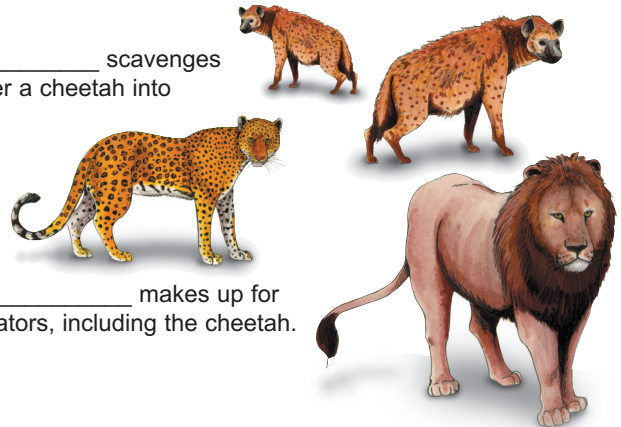


Who Gets the Prize?

The cheetah has to watch out for other predators that might try to steal its prey away. Complete the crossword puzzle below to find out why.

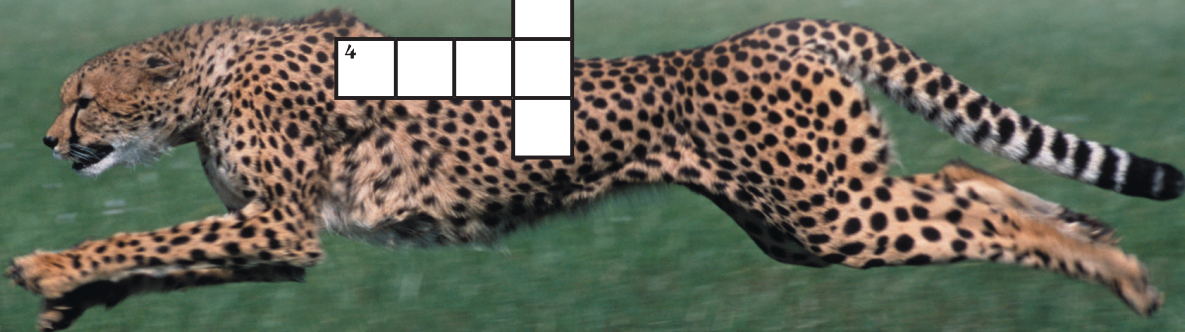
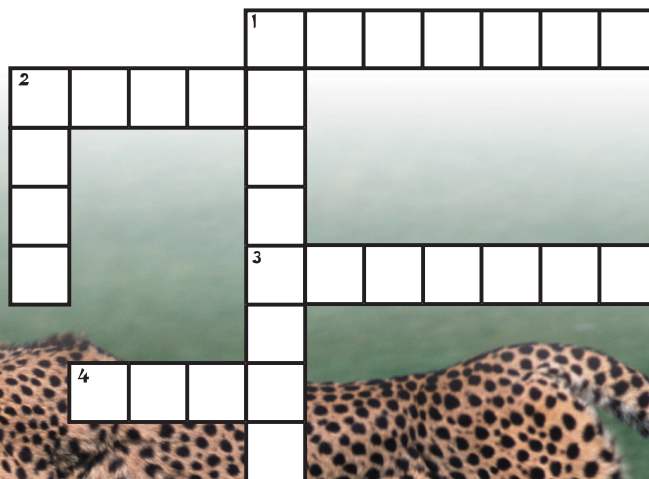
ACROSS

- The adaptations that make the cheetah the _____ animal on land actually take away from its strength and ability to defend its kill from other predators.
- Living in groups with as many as 15 members, the spotted _____ scavenges for much of its food. Aggressive and persistent, they will badger a cheetah into leaving its kill behind.
- Similar in length and height to the cheetah, the _____ is much stronger. Since it hunts mainly at night, the cheetah avoids it as much as possible by chasing prey during the day.
- Bigger, stronger and living in social groups called prides, the _____ makes up for unsuccessful attempts to hunt by stealing kills from other predators, including the cheetah.



DOWN

- Because the competition with predators is too tough in national parks, nearly 95% of Namibia's cheetahs live on _____ where they can still find wild prey.
- If a cheetah tries to fight off other predators and gets injured, it will no longer be able to _____ prey, so it will run away and leave its kill behind.



Solve a Mystery

Use your detective skills to solve the following mystery. Read the mystery aloud.
Use the clues (tips) to help. Remember: the best detectives work in teams!

The Mystery...

Jill, an American tourist, is enjoying a wildlife safari in Namibia. She knows that **habitat** destruction and loss are the major reasons that many species are **endangered**. She is surprised to see Cheetah **Conservation** Fund employees cutting down the bush. Why are they destroying the bush **habitat**?



Clue #1



The mission of the Cheetah **Conservation** Fund is to learn and teach about the cheetah and its **ecosystem**, and to conserve the cheetah.



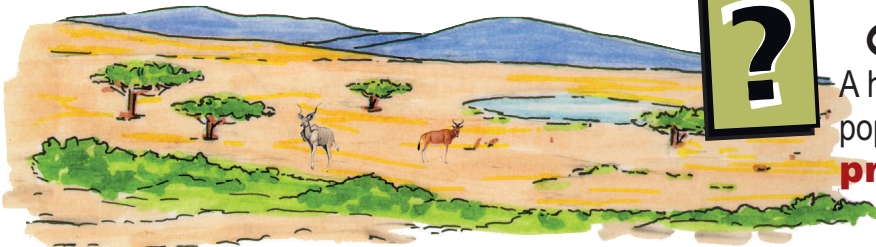
Clue #2

Elephants and rhinos, which browse on bush and keep it from growing out of control, no longer range over most of Namibia's land.



Clue #3

A healthy grassland **ecosystem** supports populations of wild **prey**, which in turn benefits **predators**, such as the cheetah, and people.



Mystery Solved!

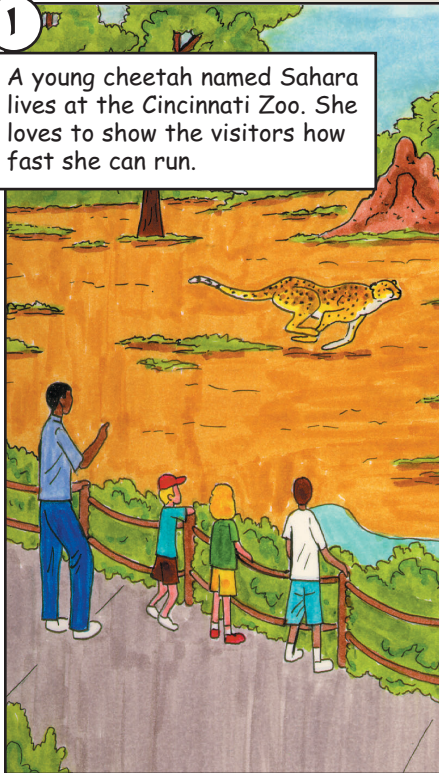
Bush is an important part of the **savannah habitat**. However, under natural conditions, it is scattered throughout the grasslands. Historically, elephants and rhinos that would feed on the bush and natural fires kept the bush from growing out of control. Today most of the elephants and rhinos are restricted to parks and reserves and fires are prevented, leaving the bush on farmlands to flourish. As the bush takes over, it pushes out the grasses, especially in areas that have been overgrazed. With less grass available, populations of wild **herbivores** such as ox and hartebeest have declined. The bush also gets in the way when a cheetah tries to chase down **prey** and its thorns can cause eye injuries. Less wild **prey** and worse hunting conditions increases the chance that a **predator** such as a cheetah will turn to hunting livestock to survive. This increases conflict between farmers and cheetahs.

The Cheetah **Conservation** Fund works with farmers to find ways that they can live in harmony with the cheetah. One of the goals is to return the **savannah habitat** back to a more natural state by reducing the amount of bush. Project FUEL is a plan to harvest bush and manufacture wood logs that will be sold as fuel for heating and barbecue (braai). Restoring the original **habitat** will make life better for the farmer and the cheetah, as well as other native wildlife.

WORKING TOGETHER

1

A young cheetah named Sahara lives at the Cincinnati Zoo. She loves to show the visitors how fast she can run.



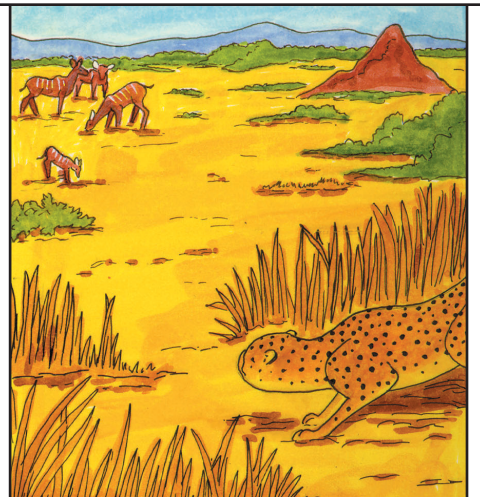
2

Tired from running, Sahara drifts off to sleep and begins to dream...



3

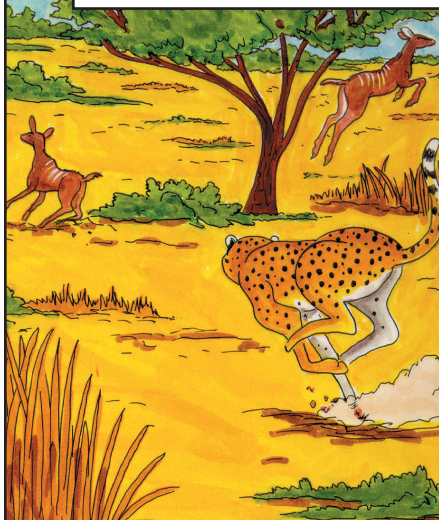
In Sahara's dream, a wild Namibian cheetah named Mekondyo (ME-KON-JO) is hungry.



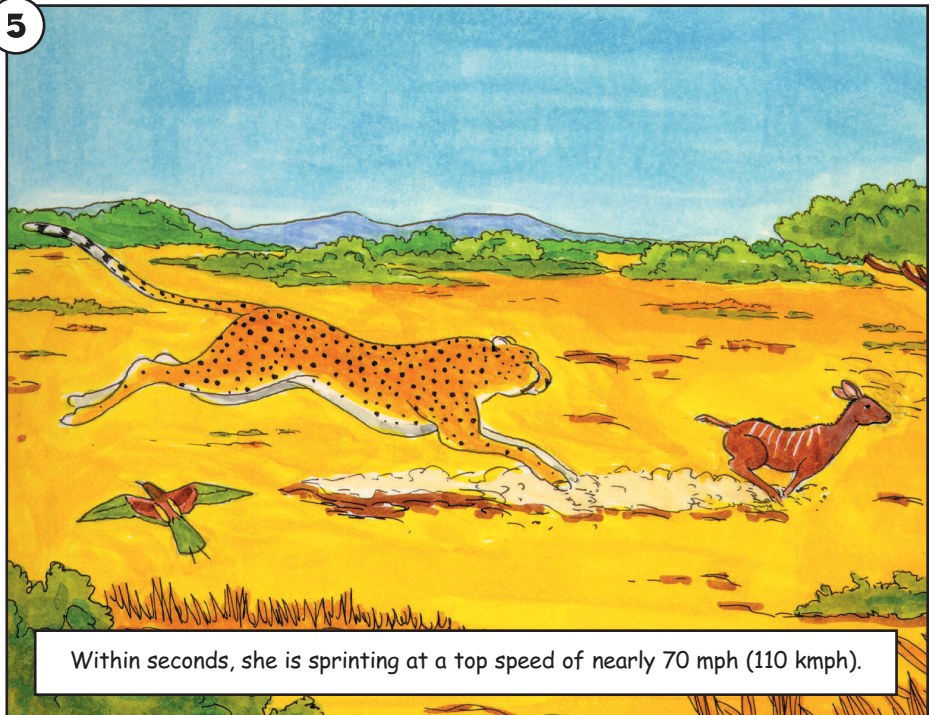
Blending in with grasses and taking cover behind a bush, she stalks a young kudu.

4

The kudu see Mekondyo and take off running. She digs her claws into the ground and springs into action.



5



Within seconds, she is sprinting at a top speed of nearly 70 mph (110 kmph).

6

Just as Mekondyo is about to reach out her front paw to trip the kudu...



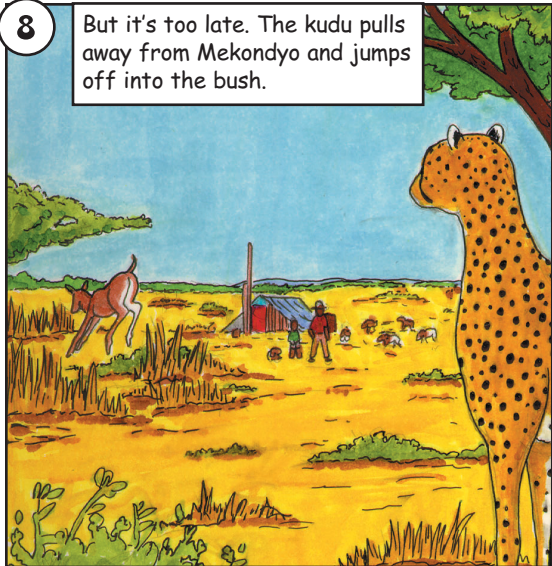
7

...it makes a sharp turn. Mekondyo's tail flips around to steer her in the new direction and help keep her balance.



8

But it's too late. The kudu pulls away from Mekondyo and jumps off into the bush.



9

Mekondyo is weary and lies down to rest. Young and inexperienced, she has difficulty catching prey on her own.



10

LOOK! WE HAVE A CHEETAH ON OUR LAND.

I WONDER IF IT IS TO BLAME FOR THE GOATS WE'VE LOST IN THE PAST FEW WEEKS.



11

THE CHEETAH CONSERVATION FUND CAME TO MY SCHOOL LAST MONTH...

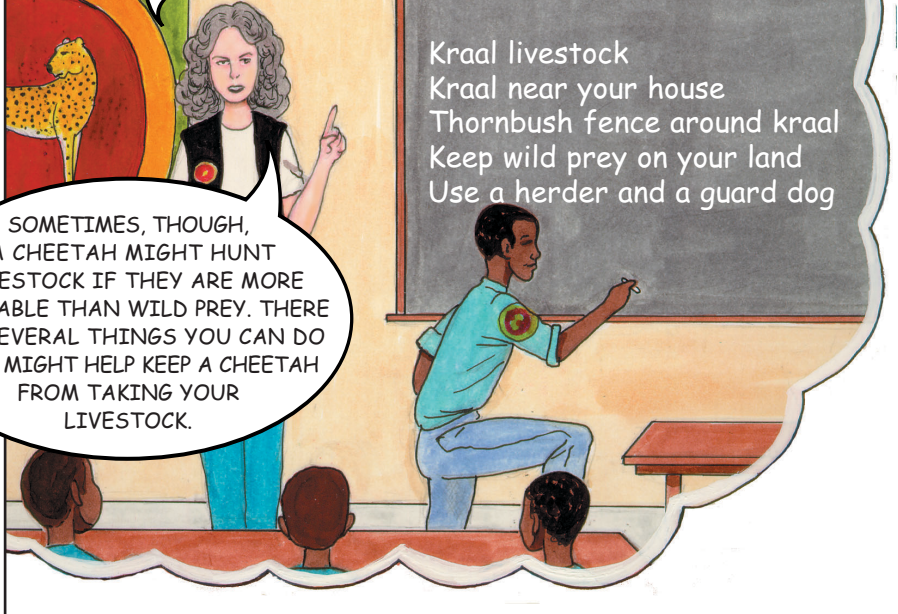


12

WE ARE HERE TODAY TO TALK TO YOU ABOUT THE CHEETAH. HAVING A CHEETAH ON YOUR LAND IS A SIGN OF A HEALTHY HABITAT.

Kraal livestock
Kraal near your house
Thornbush fence around kraal
Keep wild prey on your land
Use a herder and a guard dog

SOMETIMES, THOUGH, A CHEETAH MIGHT HUNT LIVESTOCK IF THEY ARE MORE AVAILABLE THAN WILD PREY. THERE ARE SEVERAL THINGS YOU CAN DO THAT MIGHT HELP KEEP A CHEETAH FROM TAKING YOUR LIVESTOCK.



13

LET'S CONTACT THEM.



14

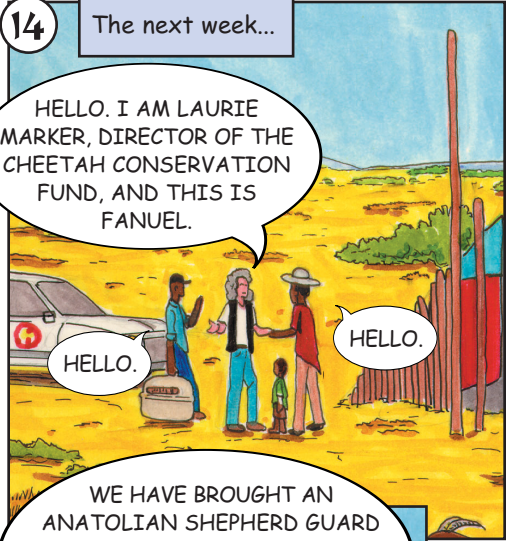
The next week...

HELLO. I AM LAURIE MARKER, DIRECTOR OF THE CHEETAH CONSERVATION FUND, AND THIS IS FANUEL.

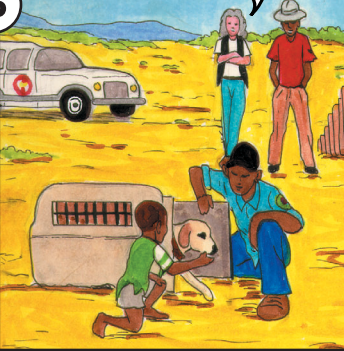
HELLO.

HELLO.

WE HAVE BROUGHT AN ANATOLIAN SHEPHERD GUARD DOG FOR YOU. RAISE THE PUPPY WITH THE HERD AND WE WILL HELP YOU TRAIN IT TO PROTECT YOUR LIVESTOCK.

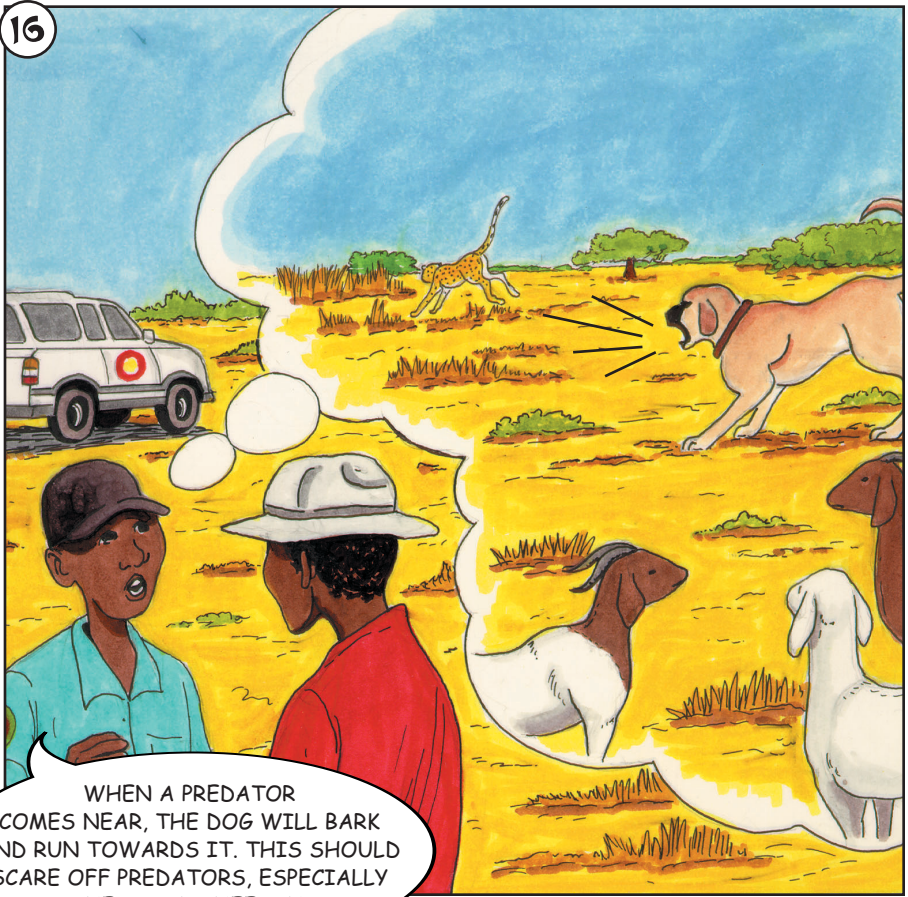


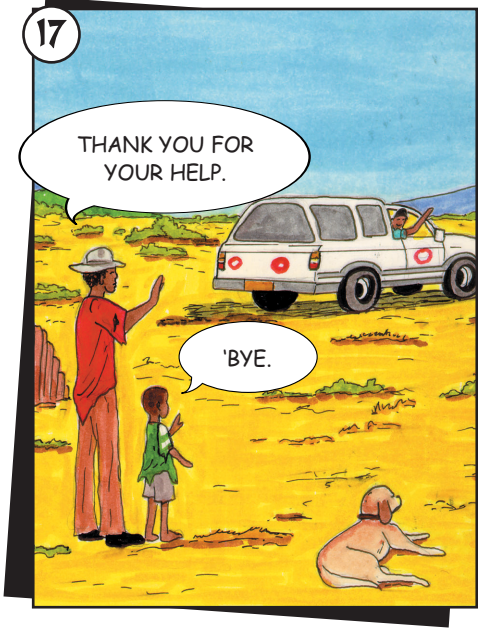
15



16

WHEN A PREDATOR COMES NEAR, THE DOG WILL BARK AND RUN TOWARDS IT. THIS SHOULD SCARE OFF PREDATORS, ESPECIALLY THE TIMID CHEETAH.





17

THANK YOU FOR YOUR HELP.

'BYE.

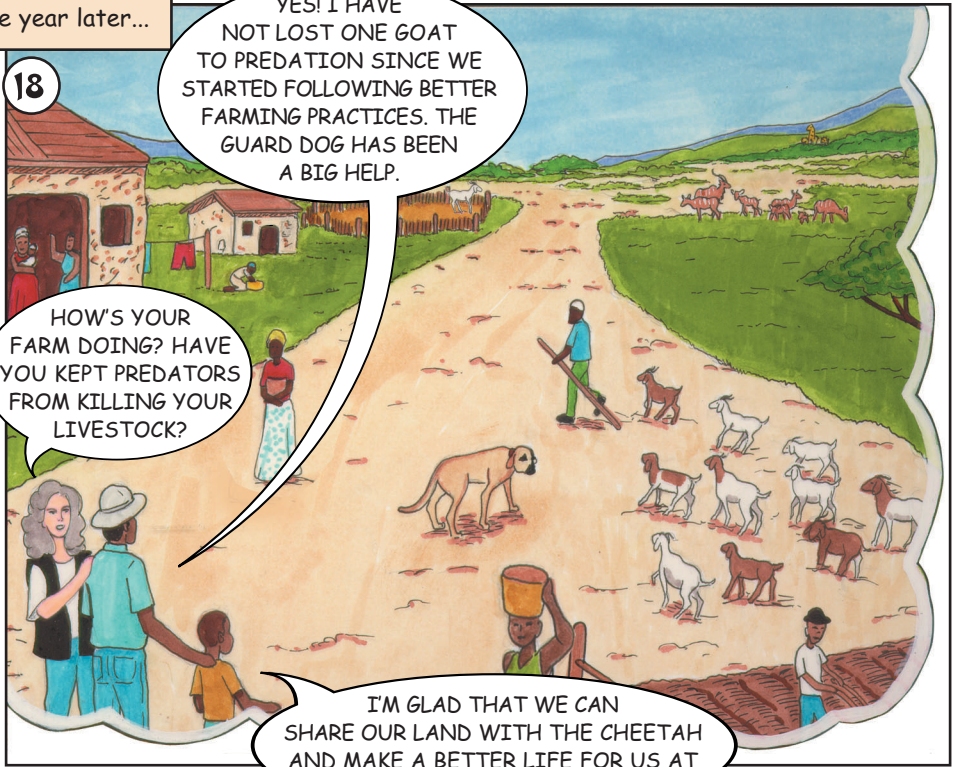
One year later...

18

YES! I HAVE NOT LOST ONE GOAT TO PREDATION SINCE WE STARTED FOLLOWING BETTER FARMING PRACTICES. THE GUARD DOG HAS BEEN A BIG HELP.

HOW'S YOUR FARM DOING? HAVE YOU KEPT PREDATORS FROM KILLING YOUR LIVESTOCK?

I'M GLAD THAT WE CAN SHARE OUR LAND WITH THE CHEETAH AND MAKE A BETTER LIFE FOR US AT THE SAME TIME.



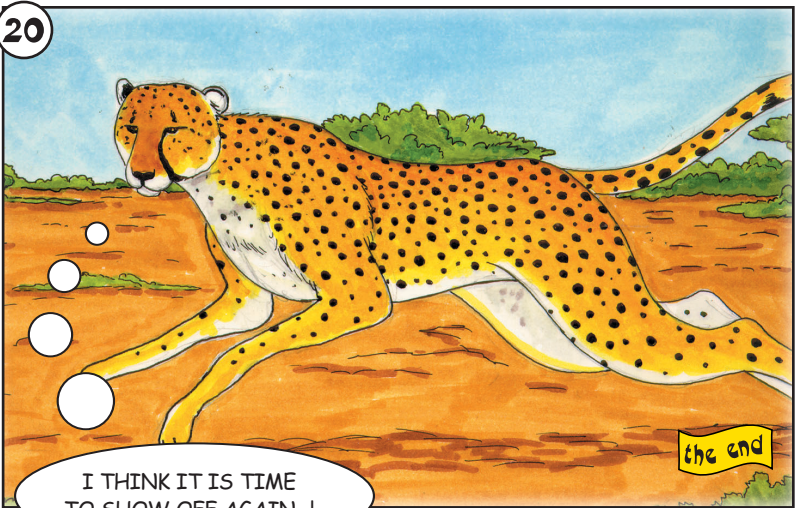
19

Sahara wakes up from her dream.

MY JOB HERE AT THE ZOO TO INSPIRE PEOPLE TO CARE ABOUT CHEETAHS IS SO IMPORTANT. THE MORE PEOPLE THAT CARE, THE BETTER CHANCE THE CHEETAHS IN THE WILD HAVE TO SURVIVE. SINCE EVERYTHING IN NATURE IS CONNECTED, SAVING CHEETAHS IS GOOD FOR EVERYONE.



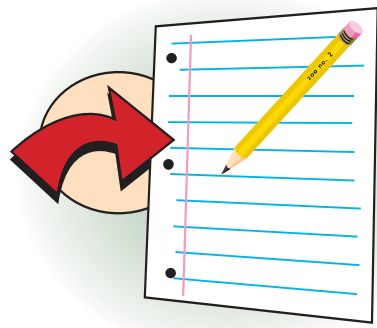
20



I THINK IT IS TIME TO SHOW OFF AGAIN...!

the end

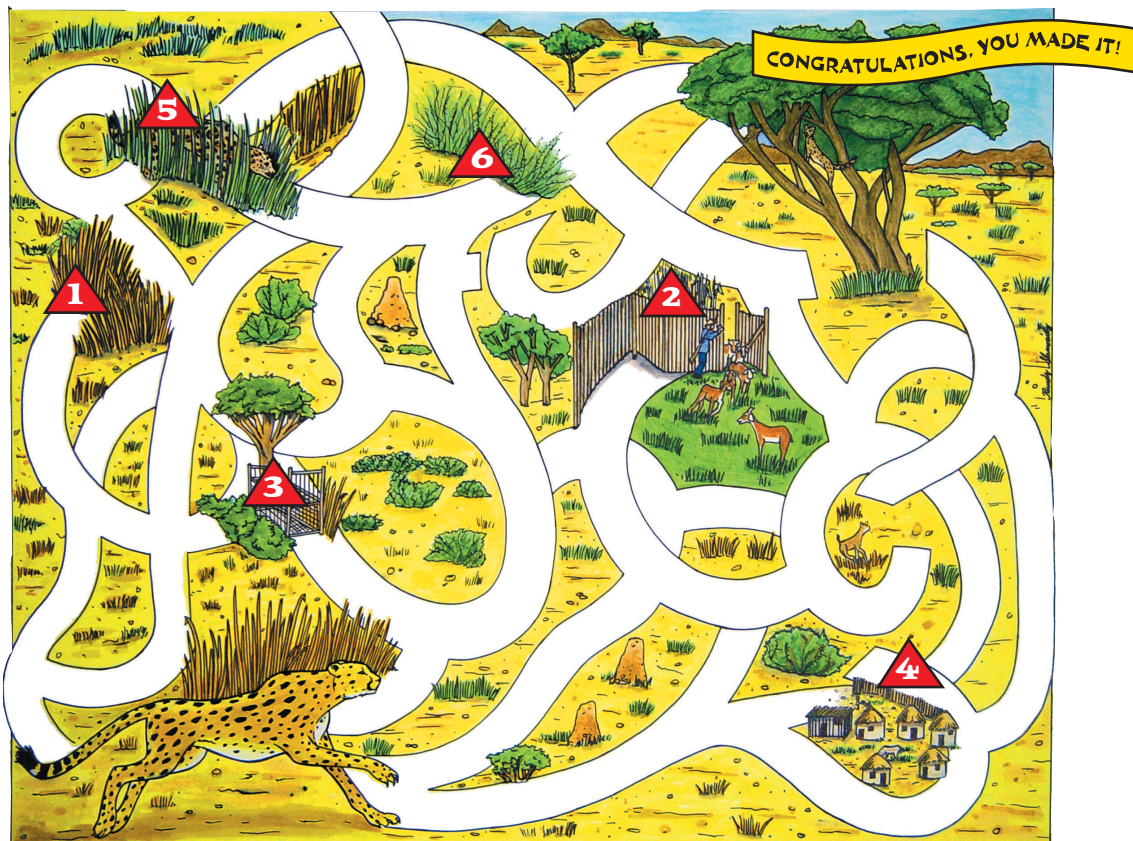
Working Together



Grab a piece of paper and a pencil. What differences did you notice about the farm before and after the farmer talked with Laurie and Fanuel from Cheetah Conservation Fund? (See back cover for help).

Get to the Playtree

Help the cheetah reach the playtree safely. Along the way, you may run into some challenges—good luck! (Look for the correct path on the back cover).



Be careful of the **DANGER ZONES!**

There are many dangers that cheetahs face in the wild. Steer clear of these hazards on your way to the playtree!



Be careful! The bush has grown thick here. Find a grassier path to avoid injury from the thorns.



Watch out! You have wandered onto a farm that does not tolerate cheetahs. Turn around before you are spotted.



Do not be fooled! A box trap is laid along this trail. Looks like you will have to find another way.



Look out! You have come across a village. You will have to find a way around it.



Oh no! You sense a leopard hiding nearby. The leopard may not tolerate your presence since you both compete for the same food. You are no match for the leopard so retrace your steps and find a safer route.



You need energy to continue your journey. The bush has taken over this area, leaving little grass for grazers to eat and so there are few **prey** options here. See if you can find a grassier path along which you will have a better chance at finding **prey** to hunt.

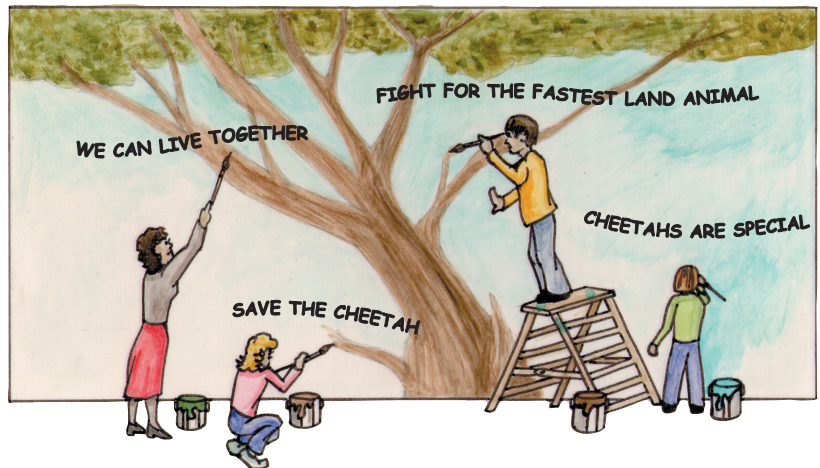


The Purpose of a Playtree

Cheetahs often travel for days and pass through several farmlands to reach a playtree. They climb the low, sloping branches of a playtree and post messages by **scent-marking** to communicate with other cheetahs that visit the tree. In this way, cheetahs can learn about the other cheetahs in the area, including whether one might make a good partner.

Create Your Own Playtree

Create your own playtree to communicate with your friends, family and schoolmates about what we can do to help the cheetah. Paint a playtree on a wall or on a large piece of paper and post messages on its branches. Here are some examples of messages you might want to post but be creative and come up with some of your own!



Glossary

- Adaptation** — a body part or behavior that helps an animal survive
- Ambassador** — one that represents or talks for a certain group; a messenger
- Conservation** — the protection of animals, habitats and ecosystems
- Ecosystem** — the sum of interactions of organisms that live in the same place and with the environment
- Endangered** — facing very high risk of extinction in the wild
- Extinct** — no longer existing
- Habitat** — the place where an animal lives that provides it with food, shelter, water and space
- Herbivore** — an animal that eats mostly plants
- Predator** — an animal that hunts and eats mostly other animals
- Prey** — an animal that is hunted or eaten by other animals
- Savannah** — a grassland
- Scent-marking** — communication through odor
- Vulnerable** — facing high risk of extinction in the wild

Check out these web sites for more cheetah information:

Cincinnati Zoo & Botanical Garden:
<http://www.cincinnati-zoo.org>

Cheetah Conservation Fund:
<http://www.cheetah.org>

Cheetah Outreach:
<http://www.cheetah.co.za>

Credits, 2003

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Adventure

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Overview

Teachers! This guide is designed to supplement Outreach programs led by the Cincinnati Zoo & Botanical Garden's Cat Ambassador Program and the Cheetah Conservation Fund. Targeted for students in Intermediate Elementary in the United States and Upper Primary in Namibia, the guide engages students in participatory learning about cheetah conservation. The guide provides a unique and fun way to inspire a sense of wonder, gather knowledge, and sharpen skills in science, reading and language arts, visual arts and geography.

The activities in this guide relate to the following standards:

National Science Education Standards

- K-4 Life Science**
- Characteristics of organisms
 - Organisms and their environment
- 5-8 Life Science**
- Populations and ecosystems
 - Diversity and adaptations of organisms

Indiana Academic Standards of Science (3-6)

- The Living Environment**
- Diversity of life
3.4.2
- Interdependence of Life and Evolution
3.3.3, 4.4.3, 5.4.4, 5.4.5, 5.4.7, 6.4.8, 6.4.9

Ohio Science Proficiencies

- Earth and space science**
- Identify and/or describe the relationship between human activity and the environment (4th grade test)
- Life Science**
- Demonstrate an understanding of the basic needs of living things (4th grade test)
 - Identify ways in which organisms react to changing environments (4th grade test)
 - Identify the roles of organisms in the energy movement in an ecosystem (6th grade test)
 - Compare and/or contrast the diversity of ways in which living things meet their needs (6th grade test)
 - Analyze the impacts of human activity on the ecosystems of the earth (6th grade test).

Benchmarks for Science Literacy (Project 2061)

- 3-5 and 6-8 The living environment**
- 5A Diversity of life
 - 5D Interdependence of life
 - 5F Evolution of life

Kentucky Core Content Science Assessments

- The characteristics of organisms (K-4)**
SC-E-3.1.2, SC-E-3.1.3
- Organisms and their environments (K-4)**
SC-E-3.3.1, SC-E-3.3.2, SC-E-3.3.3
- Diversity and adaptations of organisms (5-7)**
SC-E-3.4.1, SC-M-3.4.2
- Populations and ecosystems (5-7)**
SC-M-3.5.1, SC-M-3.5.2, SC-M-3.5.4

Ministry of Basic Education and Culture (Rep. of Namibia) Syllabus Learning Objectives (5-9)

- Natural Science and Health Education**
- Grade 5
3.6.5, 3.7.1
- Grade 6
3.7.1, 3.7.2, 3.7.5
- Grade 7
1, 2
- Grade 8
4.1, 8.0, 8.1
- Grade 9
1.1, 2.0, 2.1, 2.2, 2.3, 7.0, 7.3, 7.4

- Elementary Agriculture**
- Grade 5
4.1.1, 4.1.2, 4.3.1, 4.3.2
- Grade 7
5.1.1, 5.1.5, 5.2
- Grade 8
1.1

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Answers

Answer to "What's For Dinner" on page 6

- 1) Kudu
- 2) Oryx
- 3) Warthog
- 4) Hartebeest
- 5) Springbok
- 6) Steenbok

Answer to Crossword puzzle on page 8

				F	A	S	T	E	S	T	
H	Y	E	N	A							
U				R							
N				M							
T				L	E	O	P	A	R	D	
				A							
			L	I	O	N					
				D							

Answer to Comic Strip question on page 13

After CCF visited the farm, the farmer used a herder and a guard dog to protect the goats, kraaled the flock near the house and kept wild prey on his land. This way the cheetah can live on the farmland without preying on goats. Thus, the farmer has more goats and the family seems happier and better off.

Answer to Maze on page 14

