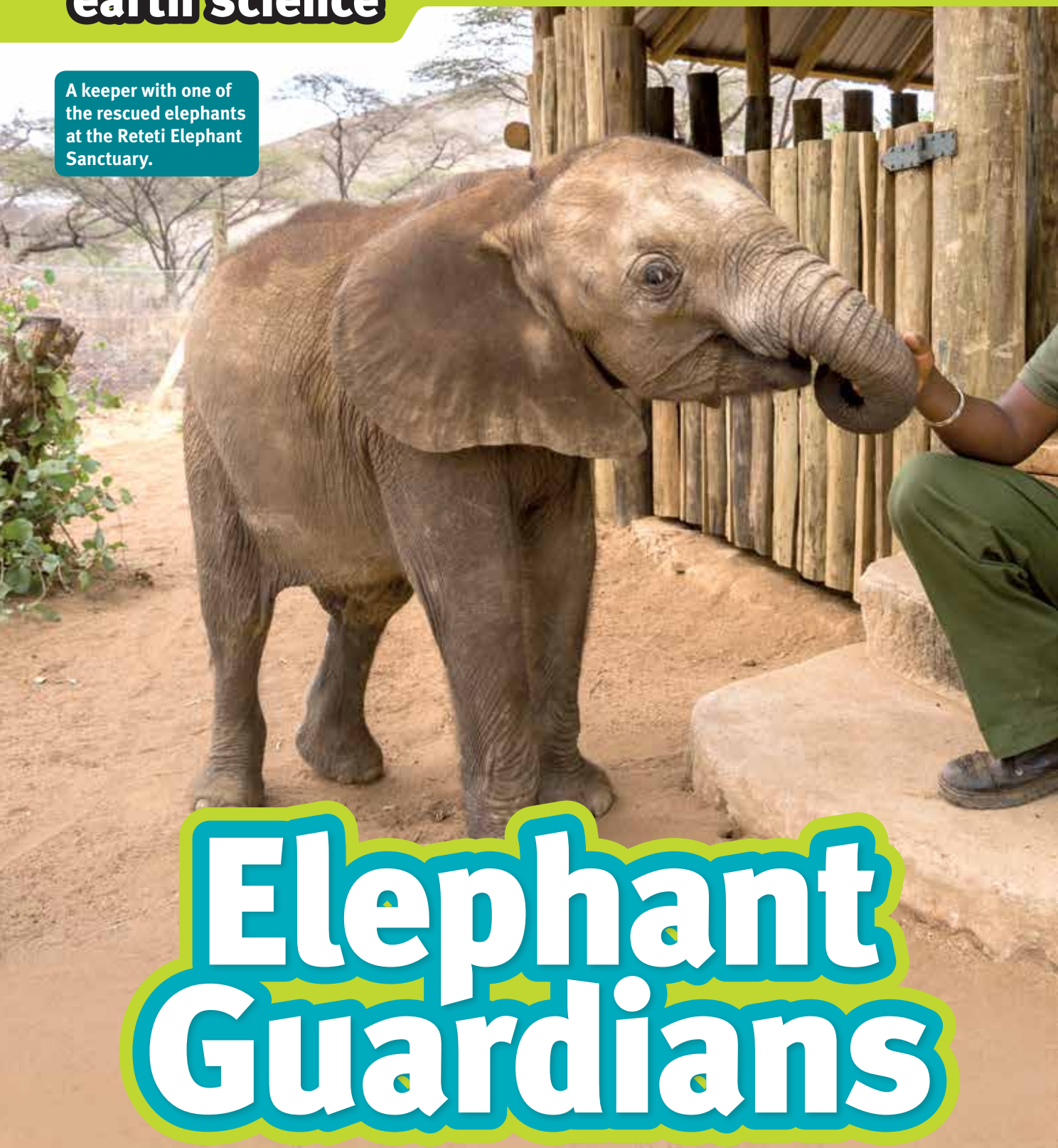


A keeper with one of the rescued elephants at the Reteti Elephant Sanctuary.

Elephant Guardians

How rescuers in Kenya are saving baby elephants from the dangers of drought

words to know

climate—the average weather for a region

sanctuary—a natural area where animals are protected from threats

grassland—an open area where grass is the main form of plant life

prey—an animal that is hunted by other animals

drought—a long period with little or no rain

poacher—a person who hunts animals illegally

AMI VITALE/NATIONAL GEOGRAPHIC CREATIVE (RETETI ELEPHANT SANCTUARY); BOAZ ROTTEM/ALAMY STOCK PHOTO (WELL)

Even from far away, villagers could recognize the distinct sound. It was a baby elephant trumpeting in distress. They followed the cries to an empty riverbed. There they found the calf trapped inside a sandy well.

The villagers were members of the Samburu tribe, a people in northern Kenya. That region's **climate** is very dry. So the Samburu dig deep pits to reach water underground.

At night, thirsty elephants come to drink from these wells. This can be dangerous for a young calf. It can fall into a well and get stuck. When the herd moves on, the calf is left behind.

The villagers knew what to do. They called the nearby Reteti Elephant **Sanctuary**. Workers came to rescue the calf, which they named Nadasoit. At the sanctuary, keepers raise orphaned elephants and prepare them for life back in the wild.

Unbalanced System

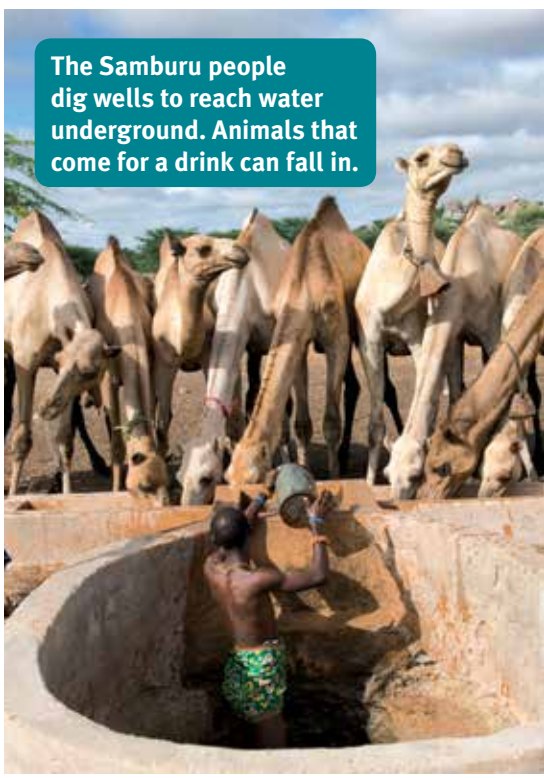
The Samburu have lived alongside elephants for hundreds of years. The giant mammals help keep the **grassland** healthy. The elephants eat the grass and leave behind droppings, which contain seeds. This helps more grass grow.

The Samburu raise cattle, which graze on the grassland. So do wild animals, like buffalo and zebras. They in turn become **prey** for animals like lions and cheetahs.

Northern Kenya typically receives rain during just a few months in the fall and spring. The region's plants and animals have adapted to survive without water for long periods of time.

But for the past two years, Kenya has experienced a major **drought**. The severe lack of rain has made it difficult for farmers to grow crops. As a result, many people across the country have gone hungry.

The drought has also made life harder for Kenya's animals. Elephants must travel long distances to find water. Calves that fall into wells or can't keep up with their herds are often



The Samburu people dig wells to reach water underground. Animals that come for a drink can fall in.

Calves snuggle with blankets—and often keepers—to stay warm at night.

The elephants love to kick soccer balls!

abandoned. If a mother can't get enough to drink, her milk dries up and her calf can starve.

The Samburu saw that elephant numbers were shrinking. Fewer elephants meant there would be less grass for their cattle. Wildlife was dying too, says Katie Rowe. She helps run the sanctuary. "When you take an elephant out of the landscape, it's a very big loss."

Helping Hands

The Samburu community founded the Reteti Elephant Sanctuary in 2016. Since then, the sanctuary has rescued 36 calves. Some lost their mothers to **poachers**. Others, like Nadasoit, were stuck in wells.

When rescuers reached Nadasoit, she was very weak. After lifting her out, they gave her water and covered her with a blanket. They put a cloth over her eyes to calm her down.

A helicopter carried Nadasoit to the sanctuary. There, Samburu keepers nursed her back to health. They fed her special formula from bottles. To make sure she felt safe, the keepers took turns sleeping next to her at night.

Nadasoit, now a year old, is doing well. She and the other calves spend a lot of time playing with the keepers.

A Thirsty Land

The current drought in Kenya has affected millions of people and animals—including more than 20,000 elephants.

Think: Find the Reteti Elephant Sanctuary on the map. Why do you think the Samburu people built it there?

AMI VITALE/NATIONAL GEOGRAPHIC CREATIVE (CALF); AMI VITALE/NATIONAL GEOGRAPHIC CREATIVE (SOCCER); JIM MCMAHON (MAP)

Keepers use bottles to feed calves special formula.

The calves love to kick soccer balls! "Elephants are intelligent and emotional," says Rowe. "They need a lot of attention."

Uncertain Future

In the spring of 2018, heavy rain fell on Kenya's hard, dry soil, causing flash floods. But that doesn't mean Kenya's drought problems are over. Experts think that droughts will become more common as Earth's climate warms.

Meanwhile, the elephants at the Reteti sanctuary are growing up. Once they're 4 years old, they will no longer need to be cared for by humans. They'll wander farther on their daily walks and spend more time in the wild.

One day, the elephants will choose to stay there. "They should be able to meet back up with their families," says Rowe.

—Ariel Bleicher

AMI VITALE/NATIONAL GEOGRAPHIC CREATIVE (KEEPER AND CALVES); KATE FRANCIS (ILLUSTRATION)

Running Water

Engineering Challenge!

Can you design a pipeline to move water during a drought?

OBSERVE: Wells can provide drinking water for people and animals during a drought. People build pipelines to carry water from the wells to farms or cities.

DEFINE THE PROBLEM: Can you build a water pipeline that meets the following criteria?

1. It carries water from a larger, elevated tank to a smaller tank.
2. It is at least 100 cm long.
3. It doesn't leak.

MATERIALS: 5-7 flexible drinking straws • 20-oz. paper cup • 8.5-oz. paper cup • craft sticks • masking tape • modeling clay • rubber bands • 250 ml water • paper towels • scissors • paper and pencil

DESIGN A SOLUTION:

1. Examine the cups. These are your water tanks. Then consider your building materials. Think about how you could move water from the larger tank to the smaller one. How will you elevate the larger tank? What materials will you use to build your pipeline? How will you prevent leaks?

2. Plan your design by drawing it on a piece of paper. Then build your model. Place the paper towels under your design.

3. Test your model by pouring water into your larger, elevated tank. Be prepared to clean up any water that leaks out.

4. Evaluate your design. Did the water move from the larger tank to the smaller tank? Did it leak? If so, how could you improve your design?

5. Modify your original design, then repeat steps 3 and 4.

CONCLUSIONS:

1. Did your pipeline meet the criteria? Why or why not?

2. What was the hardest part of building your pipeline?

3. If you were building a real pipeline to carry water from a well to a farm, what other problems might you encounter?

→ TAKE IT FURTHER: Design a pipeline to carry water from a main tank to two smaller tanks. Can you divide the water evenly between the two tanks?