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Find out how these adorable animals can affect your brain.



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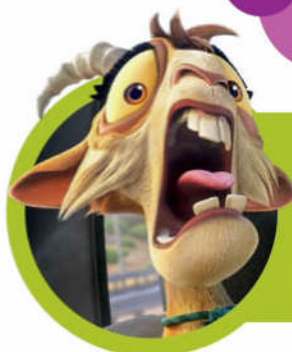
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BY JEFFREY WANDEL

# Check out these outrageous facts.

A beaver's home is called a lodge.

A newborn puppy can take up to 2 months to start wagging its tail.



I'D BETTER CALL MOM TO TELL HER I'LL BE LATE FOR DINNER.

THERE IS CELL PHONE RECEPTION AT THE SUMMIT OF MOUNT EVEREST.



SOME FROGS CAN GLIDE UP TO

50 FEET THROUGH THE AIR.

SKIN IS YOUR BODY'S LARGEST ORGAN.

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ASTONISHING  
STORIES FROM  
THE FILES OF

# Guinness World Records

BY KAY BOATNER

MORE  
RECORDS!

## LEGO SUPERHEROES

Superheroes, unite! Lego superheroes, that is. Artist Nathan Sawaya holds the record for the largest display of Lego superhero sculptures with 11 separate figures. He used over two million Lego pieces to construct the Flash, Green Lantern, Cyborg, Aquaman, Krypto, and two different sculptures each of Superman, Batman, and Wonder Woman. Lego villains, beware.

FLASH



Get more cool stuff  
in the new book  
**GUINNESS WORLD  
RECORDS:  
AMAZING ANIMALS!**

## CAT HAS LONG TAIL

Make room for this feline. With a tail measuring 17.5 inches from his rump to the tip of his tail, Cygnus the Maine coon holds the record for the longest tail on a domestic cat. And the kitty's tail isn't done growing—it's expanded about half an inch every month since this record measurement. When he's not chasing a laser pointer around the house, Cygnus takes naps with his tail wrapped around his family's two other cats, Arcturus and Sirius. Maybe he dreams about extra-long mice.



I'VE GOT  
FLUFF TO  
SPARE.

## BIG BALL OF STICKERS



Walk into the lobby of the StickerGiant offices in Longmont, Colorado, and you'll see a few plants, some desks ... and a 232-pound ball of stickers named Saul. John Fischer and fellow employees from the label-making company took two months to build the largest ball of stickers (measured by weight) in honor of the first National Sticker Day in January 2016. So how many stickers is Saul made of? Nearly 200,000!



# What Would Happen?

BY CRISPIN BOYER ART BY JOE ROCCO

CHECK OUT  
THE BOOK!



## What would happen if Earth's gravity disappeared?

Things would really be up in the air. Gravity is the force that pulls objects toward Earth's center, keeping you grounded. It also holds the planet together. If this force vanished, anything that's not secured to the ground would float off into space—including water from oceans, lakes, and rivers! Buildings might remain in place for some time. But the people, animals, and items inside would weightlessly drift upward, sort of like astronauts do in space. And eventually, without gravity to keep Earth intact, the planet would break into pieces. Luckily scientists agree that it's impossible for Earth's gravity to disappear. That's a weight off our shoulders!



## What would happen if you had a time machine?

You could beam to ancient Egypt or zip to the Victorian era. But don't expect to change history by, say, introducing King Tut to a cell phone. Some scientists think it's possible that our universe is one of many alternate "parallel" universes, each with its own timeline (for real!). And if time travel could happen, a new universe with a different timeline would form the moment the traveler did something to alter the future. But nothing would shift in your original timeline. So when you returned to your jumping-off point, you wouldn't see the consequences of your trip. Other scientists think there's only one universe with one timeline that cannot be changed no matter what. So if you were hoping to alter history to become a zillionaire in the present, you're out of luck!



## What would happen if everything were free?

You'd need a lot more closet space to stash your stuff! Not having to pay for anything would mean you could get whatever items are on your wish list ... for a while at least. People who create the things you want and need are getting paid to make stuff—that way they can buy their own goods. If everything were free (and money wasn't needed), people might not be interested in working to produce items or provide services. Before long, everything from sneakers to toothpaste to gaming systems may no longer exist because no one would be making them. So paying money for your must-haves is probably worth it.



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Bet you  
**didn't  
know**

BY ERIN WHITMER

# 6 fun facts to **unwrap** this holiday season

**1** A  
**gingerbread house** was  
decorated with  
**4,750** pounds  
of icing—that's  
heavier  
than a  
**giraffe.**

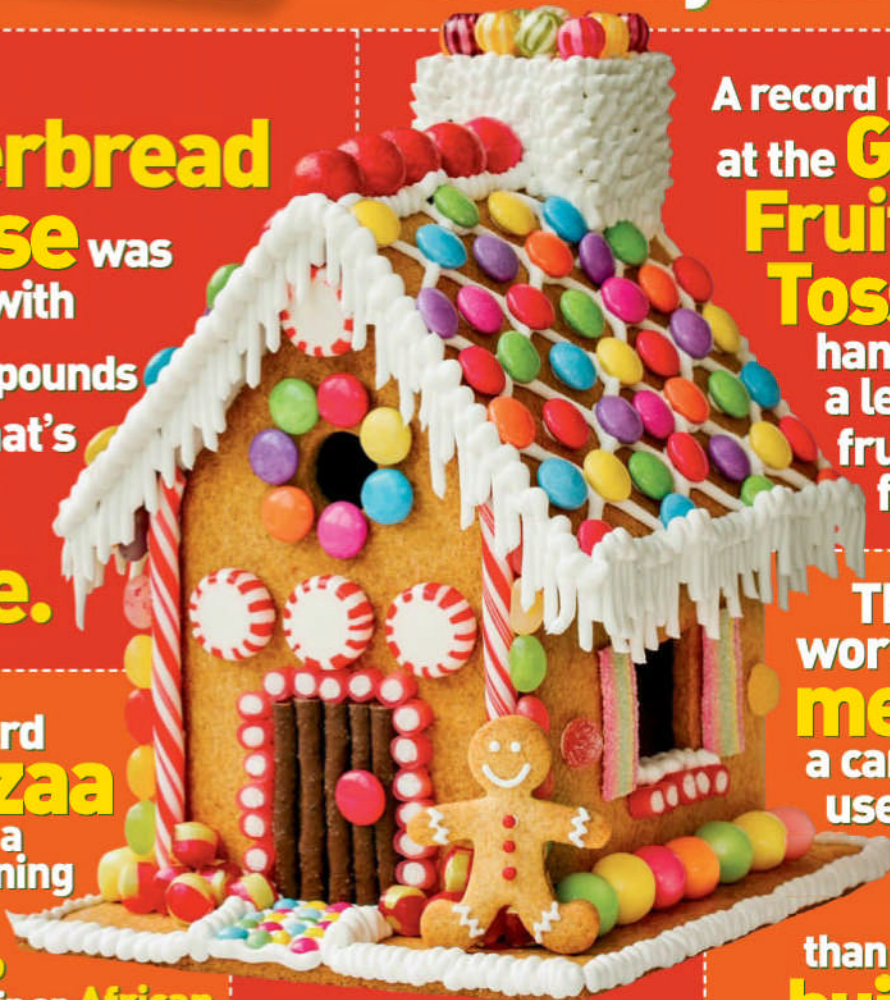
**3** The word  
**Kwanzaa**  
comes from a  
phrase meaning  
**"first  
fruits"** in an African  
language called **Swahili.**

**5** A survey found  
that about half of  
**dog owners**  
in the United  
States buy holiday gifts  
for their **pets.**

**6** **Apollo 8,**  
the first manned  
**spacecraft**  
to circle the moon,  
entered orbit on  
**Christmas Eve**  
in 1968.

**2** A record holder  
at the **Great  
Fruitcake  
Toss** in Colorado  
hand tossed  
a leftover  
fruitcake 415  
feet.

**4** The  
world's largest  
**menorah—**  
a candelabra  
used during  
Hanukkah—  
was **taller**  
than a three-story  
**building.**



**CHECK  
OUT THIS  
BOOK!**





# DARE to EXPLORE

BY C.M. TOMLIN



**WANT TO BE A MOUNTAINEER?**

**STUDY:**

Geography and social studies

**WATCH:**

The documentary *The Wildest Dream*

**READ:**

*To the Top! Climbing the World's Highest Mountain* by S.A. Kramer

Mountaineer **Wasfia Nazreen** is the first person from her **South Asian country of Bangladesh** to climb the “**Seven Summits**,” or the highest mountain on each continent. She talks to *Nat Geo Kids* about **overcoming obstacles** and **doing the unexpected**.

“**W**hile climbing Mount Kilimanjaro, the highest mountain in Africa, one of my team members brought a Hula-Hoop. Growing up, many things were frowned upon for young girls like me to do—hula-hooping in public was one of those things. So halfway up Kilimanjaro, we decided to take the Hula-Hoop to the top ... and to the highest peak of all seven continents. It was my way of taking back what was often taken from me as a child: my right to play outdoors.

“No good thing in life comes without obstacles, and all obstacles seem scary at first. But it’s always been worth it for me to push through them. For instance, while climbing Mount Everest in Nepal, we were close to the summit when our camp was destroyed by an avalanche. Without our extra supplies, we were forced to return to base camp and start all over again. It was frustrating at the time, but finally reaching the summit was more meaningful because of all the extra struggles we went through.

“You have to go for your dreams no matter how big they are or where you’re from. Any peak is reachable as long as you’re persistent and hard-working.”

“**Remember** that it’s not about the summit or the final goal. It’s about the journey and **the lessons we learn** along the way.”



WASFIA NAZREEN USES A LADDER TO CROSS OVER A DEEP CREVASSE ON MOUNT EVEREST, THE WORLD'S HIGHEST PEAK.



NAZREEN HOLDS THE BANGLADESHI FLAG ATOP ALASKA'S DENALI, NORTH AMERICA'S TALLEST MOUNTAIN.

WASFIA NAZREEN / NATIONAL GEOGRAPHIC CREATIVE (NAZREEN, MAIN); RANDALL SCOTT / NATIONAL GEOGRAPHIC CREATIVE (NAZREEN, INSET); SANGAY SHERPA / AFP / GETTY IMAGES (NAZREEN, WALKING)



# Amazing Animals

WHAT?  
DO WE HAVE  
SOMETHING  
IN OUR  
TEETH?



OTTIE (FAR LEFT) AND  
BONSO HAVE BEEN  
SHEARED TO LOOK  
LIKE A POODLE AND  
A STEGOSAURUS.

## CRAZY ALPACA HAIRCUTS

### Cirencester, England

It's hard to miss Ottie, Tinka, and Bonso the alpacas. Their hilarious hairdos make them and the other members of their herd look sort of like different animals—including a zebra, a poodle, and even a dinosaur!

Helen Kendall Smith wanted to do something special to celebrate her 10th year as an alpaca breeder, so she decided to give 10 of her animals crazy cuts. First she sketched out the shapes before hiring a professional shearer to transform the animals. Alpacas are used to being sheared every year to keep them cool and sell their wool. That's why none of the animals minded getting their new stop-and-stare styles.

How did Kendall Smith pick which alpacas would get the special cuts? "I chose the ones that love attention," she says, "the ones that have that 'look-at-me!' attitude." Her favorite is the dinosaur do on Bonso. "When he's in the field with his head underneath a tree to eat leaves, he really *does* look like a dinosaur!"

—Sara Schwartz



TINKA SHOWS  
OFF HER ZEBRA-  
INSPIRED 'DO.



AUSTRALIA?  
NEVER HEARD  
OF IT.

## “ROO'D” AWAKENING

### Dodgeville, Wisconsin

You expect to see a cow in Wisconsin farm country, not a kangaroo. No wonder Sheriff Steve Michek thought the first call reporting the stray Australian animal was a prank. But sure enough, hopping around a woman's snowy yard was a five-foot-tall kangaroo!

So how do you catch a kangaroo? Michek lined up gates and cars to create a wide path leading into a horse barn. “We used apple slices to help him along,” he says. Soon the 'roo bounded into the shelter, where he stayed until zoo officials arrived.

How the animal, named Roo, got to Wisconsin remains a mystery. “He may have escaped in transit from somewhere,” says Jim Hubing of the Henry Vilas Zoo, which later adopted the animal, giving it a life of luxury as the zoo's biggest star. Sure beats hopping around in the snow!

—Gerri Miller

KANGAROO  
DODGEVILLE,  
WISCONSIN

ALPACAS  
CIRENCESTER,  
ENGLAND

SHARK  
MONTEREY,  
CALIFORNIA

WHAT'S  
FOR DINNER?  
ANYTHING  
I WANT!

## SHARK TALE

### Monterey, California

Scuba divers cleaning this million-gallon tank wore a little something extra: chain mail. Why? Swimming close by—but not too close—was a great white shark nearly six and a half feet long.

The shark made waves when she remained in captivity at the Monterey Bay Aquarium for 198 days, the longest ever for a great white. She came to her new home after fishermen accidentally caught her. Scientists at the aquarium used her visit to show that sharks should be protected, not feared. “Many species of sharks are threatened or endangered,” marine biologist Randy Kochevar says.

The shark was eventually released into the ocean—where she had to catch her own dinner instead of grabbing it off an eight-foot pole!

—Gerri Miller







# The Science of **cute**

BY JAMIE KIFFEL-ALCHEH

## How these adorable animals **affect** your brain

**Waking from a nap**, a fluffy kitten blinks open its big blue eyes and yawns to reveal a tiny pink tongue. Then it stretches its body, exposing a furry little tummy. Curling back into a ball, the kitten lets out a soft meow and goes back into snooze-mode. *So adorable!*

Whether it's a sleepy kitty or a bumbling baby elephant, certain traits drive our cuteness-o-meters wild. And it turns out that science can explain our need to squee over critters.

Scientists think our tendency to value cuteness has to do with species survival. Human babies are born helpless—they need

adults to look after them. Having features that grown-ups find irresistible helps make sure that the baby is cared for and played with so that it's healthy and learns social skills. So over hundreds of thousands of years, humans developed a fondness for certain traits in babies. And when we see similar characteristics in animals, we find them *aw*-worthy as well.

What is it about human babies and animals that we find so adorable? In 1943, Austrian zoologist Konrad Lorenz came up with a list of “cuteness” traits—from big eyes to clumsiness—that make us feel affection. “People have an automatic response to these features,” says Sookyung Cho, a scientist at Northern Kentucky University. Discover which traits give us warm fuzzies, and why.





## head-to-head

**Adorable Animal:** An arctic fox pokes its fluffy head out from behind a snowbank. Living in its rugged habitat on the Arctic tundra, the animal sports a thick layer of fur in winter that makes its head look big.

**Cuteness Factor:** A large head is one of the traits that humans find adorable. Some scientists believe that we're drawn to animals with big heads because they remind us of a human baby's noggin. When humans are born, their brains are more developed than other parts of their bodies. Their skulls must then be big enough to hold those brains. So when humans see other animals with similarly large heads, we feel the need to protect them.



## eye got it

**Adorable Animal:** A baby giraffe on the African savanna blinks, showing off its huge peepers. Lots of young animals have large eyes, from giraffes to puppies to gorillas. Baby humans do too—a human's eyes grow fastest during the first few years of life, then slow down while the body catches up.

**Cuteness Factor:** Large eyes are often associated with sweetness and innocence, creating a major adorable alert in your brain. Looking at the big peepers of certain animals and human babies can even prompt some people to produce natural chemicals called dopamine and oxytocin, which boost feelings of happiness.



## sweet sounds

**Adorable Animal:** An emperor penguin chick nestles underneath its father for warmth. The chick opens its beak and squeaks—it's now toasty beneath the dad's belly.

**Cuteness Factor:** Squeals and trills from animals can make a human want to coo. "Unlike a loud roar or sharp squawk, the sounds made by baby animals aren't threatening," says Joshua Paul Dale, a professor at Japan's Tokyo Gakugei University who studies the concept of cuteness. So humans are able to see the critters as lovable.



# Beastly Benefits

These animals have features that definitely *aren't* considered cute. But their not-so-charming traits come in handy. Check out these jaw-dropping characteristics.



## Nosing Around

A star-nosed mole's nose sports 22 fleshy projections that contain a total of 100,000 nerve fibers. Nearly blind, the mole bops the projections against the ground. These sensors send information about the environment through the nose and into the brain.

## Big Softies

With wart-like bumps on their heads, warthogs aren't exactly beauty pageant winners. But the "warts" are actually bumps of fat that help cushion blows when the males fight each other.



## Freaky Fingers

The aye-aye (a kind of lemur) has long, creepy-looking middle fingers that it uses to drum on rotten logs and branches in order to find hollow spots where bugs live. (The sound of the tapping alerts the animal to a cavity.)



Then it bites a hole and digs up all of the bugs. Dinner's served.

## Bald Truth

When the California condor eats, it sticks its bald head inside rotting carcasses. Because bacteria could cling to feathers and make the bird sick, the condor's lack of head plumage means it avoids disease.



## Thorn in Your Side

Called a thorny dragon, this lizard's spiky skin is designed to collect rainwater in its dry desert habitat. Water lands on the reptile's surface, then flows through narrow channels in the skin that lead to the animal's mouth. Now it can drink up and stay hydrated.



## CHECK IT OUT!

Come face-to-face with dolphins, whales, and other cute (and not-so-cute!) sea animals at the **National Geographic Encounter: Ocean Odyssey** in New York City. For more information, grab a parent and go online.

[natgeoencounter.com](http://natgeoencounter.com)



## big smile

**Adorable Animal:** A bottlenose dolphin emerges from the ocean, its mouth curved in what looks like a huge smile. Even though we know this animal probably isn't flashing a wide grin, humans think of happiness when they see the "smile."

**Cuteness Factor:** When people see an unfamiliar sight, they tend to compare it to images and expressions they already know. This is called pareidolia (pronounced pair-eye-DOH-lee-ah). So even though we're unsure of what the animal's thinking, we automatically identify a **smiley shape** on its face as something we're used to—a happy look.

## round it out

**Adorable Animal:** A koala rests its rump on a tree branch in an Australian forest as it munches eucalyptus leaves. Its body looks like a furry ball clinging to the branch. The koala swallows the last of its leafy snack.

**Cuteness Factor:** One quality that people tend to find irresistible in koalas is a **rounded body**, rather than a sharp one like a sea urchin has. In general, humans prefer curving geometric shapes. "We're more drawn to roundness than sharp lines," says researcher Hiroshi Nittono of Japan's Osaka University.

## out of curiosity

**Adorable Animal:** A tiger cub scampering around its habitat and sniffing everything in sight definitely weighs high on the cute scale. "There's a time when young animals are curious about everything," Dale says.

**Cuteness Factor:** Animals that display **curiosity** seem friendly, so humans are drawn to them. "At this age, even a lot of aggressive animal species are pretty harmless," Dale says. Soon the animal's curiosity fades, and it's replaced by caution. Once an animal makes that transition, humans don't find them quite as cute. So curiosity is fuel for cuteness!

## PERSONALITY QUIZ!

Which Cute Baby Animal Are You?

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### walk and wobble

**Adorable Animal:** A baby Asian elephant toddles alongside its mother. "When baby animals learn to walk, they don't do it very well," Dale says. "Their clumsiness is another characteristic that appeals to humans."

**Cuteness Factor:** Animals with **wobbly movements** like young elephants come across as helpless, just like a human baby who's still developing motor skills. This sparks a person's desire to protect and care for the animals because we have a sense that, like human babies, the animals aren't quite strong enough to defend themselves.

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# Beyond Adorable

Check out the cutest animals you've never heard of!

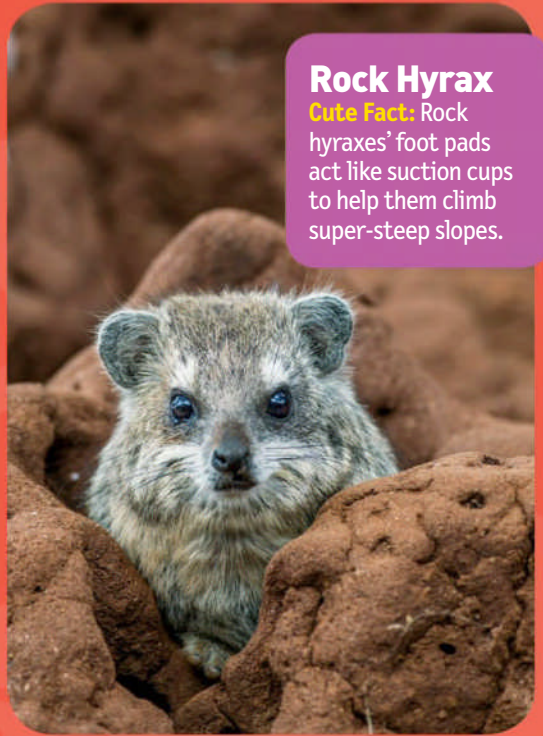
## Emperor Tamarin

**Cute Fact:** When a baby emperor tamarin is born, adult males in the group bathe and care for it.



## Rock Hyrax

**Cute Fact:** Rock hyraxes' foot pads act like suction cups to help them climb super-steep slopes.



## Mandarin Duck

**Cute Fact:** If a predator appears, a mandarin duck might distract it by faking an injury.



## Axolotl

**Cute Fact:** Axolotls can regenerate damaged limbs and even small parts of their brains.

## Klipspringer

**Cute Fact:** This antelope's name means "rock leaper" in Afrikaans (a language spoken in southern Africa).







The great gray owl has a four- to five-foot wingspan. Without turning its head, an owl can only see straight ahead.





A great gray owl uses another bird's abandoned nest. An owl's superior hearing helps it find prey in the dark.



# 5 SMART Toys

Check out these amazing toys and the technology that makes them so brainy.

BY KRISTIN BAIRD RATTINI

1

## THE TOY

AstroBot

## WHAT IT IS

An interactive robot that dodges obstacles

## COOL SCIENCE

Infrared light

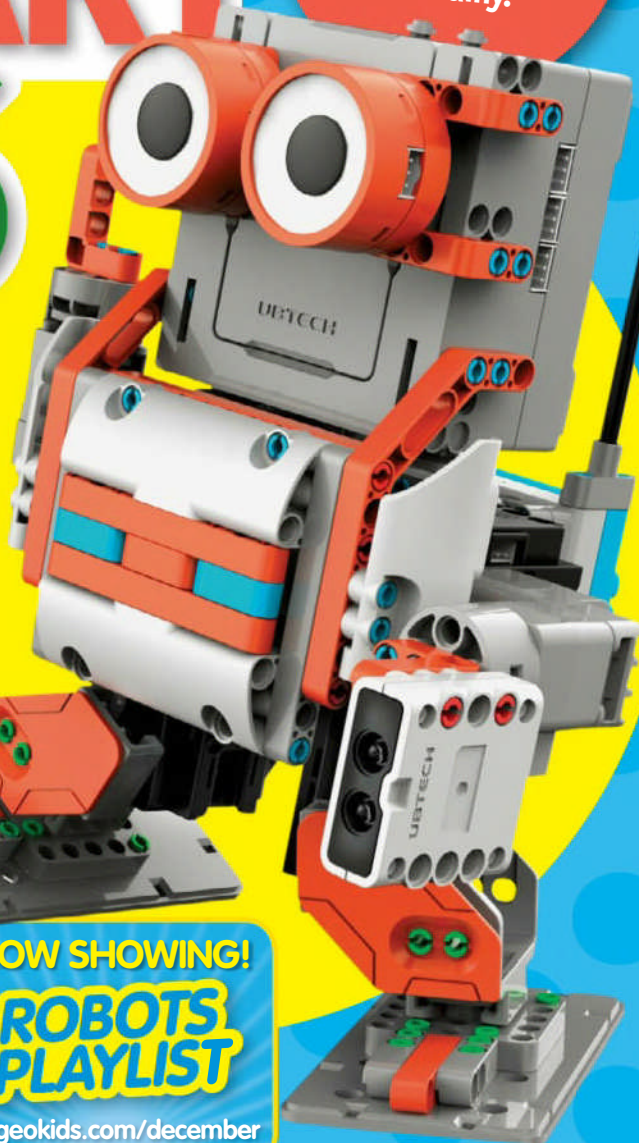
## HOW IT WORKS

AstroBot doesn't let anything get in its way—literally. This adorable droid avoids barriers as it zips around. Once in motion, AstroBot shoots out beams of infrared light. If something blocks the droid's route, the beams bounce off the obstacle and back to the toy's sensor so that the toy knows to change direction. It's sort of like bat echolocation, in which the flying mammal bounces sound off trees back to its ears to tell it what's blocking its path. Ready, set, roll.



NOW SHOWING!  
**ROBOTS  
PLAYLIST**

[natgeokids.com/december](http://natgeokids.com/december)



2

## THE TOY

Artsplash

## WHAT IT IS

Paper that lets you create 3-D paintings with water

## COOL SCIENCE

Surface tension

## HOW IT WORKS

Your paintings will pop off the page with this art kit. Mix water with dyes to create different shades of liquid. Pour the liquid into your Aquapen, a pen-shaped dispenser.

Then take a piece of paper from the kit. Squeeze the water onto the preprinted patterns. The H<sub>2</sub>O will ball up on each pattern. Why? The designs contain a chemical that *attracts* water; the surrounding paper has a chemical that *repels* water. So water molecules cling together to stay on each pattern. That clinging is called surface tension. (Compare it to people huddling around a warm campfire on a cold night.) Way to cause a splash.





3

**THE TOY**

Kamigami

**WHAT IT IS**

Realistic toy bugs you assemble like origami

**COOL SCIENCE**

Biomimicry

**HOW IT WORKS**

Prepare for a creepy-crawlie collision course! Bug-like Kamigamis are made with sturdy plastic “body parts” that you fold and interlock, origami style. An app wirelessly revs up their motors so they skitter around. Toymakers designed the Kamigami’s motors and gears to move the legs as if they were part of a real insect, which always has three of its six feet on the ground when running. This “mimic” technology is called biomimicry. (Think of a swimmer doing a dolphin kick to plow through water like a marine mammal.) Best of all? No bug bites.

4

**THE TOY**

DigiLoom

**WHAT IT IS**

An app-operated loom for friendship bracelets

**COOL SCIENCE**

Short-wave radio frequencies

**HOW IT WORKS**

The DigiLoom helps you weave friendship bracelets. The app shows you how to set up the threads in the loom, then signals the machine to start through Bluetooth, a technology that connects nearby smart devices using short-wave radio frequencies. These waves of energy carry data received from the DigiLoom’s app. (They’re the same waves that connect walkie-talkies, carrying voices from one device to the other.) The DigiLoom responds to the signals by positioning the threads. As the machine moves, you’ll weave another thread through the strands in the loom to create your design. *Wrist-pect!*



5

**THE TOY**

Stikbot Studio Pro

**WHAT IT IS**

A mini movie studio

**COOL SCIENCE**

Chroma key

**HOW IT WORKS**

This toy comes with Stikbot figures (your “actors”) and a green backdrop (the “movie set”). Pose the figures against the backdrop, then use the app to select a background photo—a beach, the moon, whatever. When you look through the camera, you’ll see the figures in front of the image you chose instead of the green backdrop. That’s because the app uses technology called chroma key, which allows cameras to recognize and filter out a certain color, then fills the space with the other image. It’s similar to when your spell-checker finds a misspelled word in your essay, erases it, and fills in the space with the correct spelling. String your scenes together to create stop-motion movies. Academy Awards, here you come!







# CLOUDED





# LEOPARD



YUMMY MILK

A clouded leopard's tail, used for balance as it climbs trees, is nearly as long as the rest of its body.

## Orphan cubs learn how to live in the wild.

BY SCOTT ELDER

A man quietly spreads the word that he has valuable goods for sale. He tries to keep it a secret from the authorities who govern his forest village, because it's illegal to possess the merchandise: two tiny wild leopard cubs. But the first people to arrive at his home aren't interested in buying exotic pets. Acting on a citizen's tip, they are forest rangers who police this area in northeast India, called Kokrajhar. Busted, the surprised villager hands over the helpless leopard kittens, so young they haven't even opened their eyes.

The rangers alert the nearby wildlife clinic—operated by the Wildlife Trust of India (WTI)—that two common leopard cubs are arriving for emergency care. Although the veterinarians are thrilled that the rangers rescued the kittens, their satisfaction is bittersweet. The common leopard is a powerful big cat that often comes into conflict with humans in India. So at the time, releases of this species were currently banned in that country.

### NOT COMMON AT ALL

When the cubs arrive, however, the vets are amazed by the strange blotchy pattern on their coats, which looks like brown and black clouds. Common leopards would be covered with spots. "The rangers don't realize they have

rescued a very rare species," vet Panjit Basumatary says. These kittens are actually very uncommon wild cats called clouded leopards.

The vets examine the two furry cubs, both male, and estimate they're only a few weeks old. They're relieved that neither cat has any bad cuts, broken bones, or obvious illnesses, but because both kittens weigh in at less than two pounds, the vets fear that they're dangerously underfed and dehydrated. To replace the milk their mother would give them, the vets try hand-feeding the cubs cow's milk using baby bottles. If the leopard cubs don't accept this artificial diet, they won't survive. Fortunately both patients eat well.

These wild cats are most closely related to lions, leopards, jaguars, tigers, and snow leopards.

### A PLAN FOR THE FUTURE

Now that the brothers' health seems stable, the vets and wildlife experts at WTI and its partner organization, the International Fund for Animal Welfare (IFAW), must decide the cubs' future. Unlike common leopards, clouded leopards are too small to be threats to humans or livestock, so they can be released. But without the care and protection of their mother, who was almost certainly killed by a poacher, the cubs won't stand a chance. Although WTI and IFAW have successfully hand raised and released young elephants and black bears, no





## PLAYTIME



## LEARNING TO CLIMB

one had ever attempted to do so with a clouded leopard. However, with only about 10,000 clouded leopards left in their natural habitat in Southeast Asia, the staff decides to try.

"When animals are this rare, every single individual matters to the population," says Ian Robinson, IFAW's head of wildlife rehabilitation. "And we believe that wildlife belongs in the wild. When animals are taken out of the wild, they ought to be put back."

## LEARNING TO CLIMB

Basumatary and fellow veterinarian Bhaskar Choudhury—along with WTI's Wild Rescue director, N.V.K. Ashraf—begin attending to the clouded leopards. The baby leopards are assigned two keepers who will stay with them almost 24/7. Throughout the rehabilitation, these keepers are the only humans who regularly come into close contact with the cats. This way, the cubs will retain their instinctive mistrust of all other humans, which will be essential for survival in the wild. The keepers choose names for the orphans: Runa and Kata, taken from the name of the forest near where they were rescued, Runikhata.

The clouded leopards begin going on leashed walks through their natural

A clouded leopard can catch monkeys, birds, and squirrels in trees.

habitat of dense forests. The tiny cats nervously trail behind their keepers, which is good. "Initially the cubs have to be under the control of the keeper," Ashraf says. "The role of a keeper is to provide security—much like a foster parent."

After one week, the keepers remove the leashes so that Runa and Kata can climb and jump around freely. Clouded leopards are arboreal, which means they spend most of their time up in trees. Adult clouded leopards are acrobats of the forest: They climb along branches while clinging underneath like sloths, hang upside down from their hind legs like monkeys, and scramble headfirst down the sides of trees like squirrels. These young clouded leopards have to learn all this. "They're very comfortable climbing, but they do fall down every once in a while," Ashraf says. "They have to learn which branches are the thinnest they can hold on to."

## BEGINNING THE HUNT

These climbing skills aren't just for playing around, though. Adult clouded leopards are master predators that stalk and hunt prey such as monkeys, birds, and deer. To help trigger their predatory instincts, liver soup





## A WALK IN THE WOODS

is added to their milk formula diet after two weeks at the clinic. Again, Runa and Kata prove they have a lot to learn when they try to hunt during walks. “At first they’re trying to catch every animal they see,” Ashraf says. “But soon they learn that there’s no point in pouncing at every animal. So they’ll wait... wait... and wait... and then attack.”

## BACK TO THE WILD

After about six months living near the clinic, Runa and Kata move deeper into the forest with their keepers. They begin walking—and hunting—at night, like wild clouded leopards. Six months later, the orphaned brothers are ready for some independence. Their cage door is left open so they can come and go as they please, but food is left out in case they need it. “Their natural habitat is like a magnet,” Ashraf says. “It pulls the clouded leopards away from us humans.”

In just a few weeks, Runa and Kata become so wild they must be tranquilized with a dart in order to handle them. The keepers then fulfill their final duty as foster parents—carrying the tranquilized cats to the vets so they can attach radio-tracking collars—before saying goodbye. Once the sedative wears off, the cats stealthily slink away into the forest for good.

A year later, the brothers continue to thrive in their natural home, proof that clouded leopards can be hand raised and released successfully.

Clouded leopards can climb by the time they’re six weeks old.



CHECK OUT THIS BOOK!





# THE TRUTH BEHIND AWESOME **NEW** MOVIES

See how these two animated  
flicks stack up to reality!

BY KAREN DE SEVE  
AND ELIZABETH HILFRANK

## COCO

**GHOSTLY JOURNEY** Twelve-year-old Miguel dreams of becoming a musician. But his relatives banned music decades ago after his great-great-grandfather chose singing over his family. When Miguel accidentally journeys to the Land of the Dead, he seeks out his great-great-grandfather in the hopes of finding a connection to his love of music. In real life, of course, people don't hang out with their departed ancestors in a magical world. But many Mexicans *do* honor their ancestors during Día de los Muertos, or Day of the Dead. Celebrated around November 1, family members visit graves to clean tombstones and leave food and other gifts for their departed loved ones.

**FLOWER POWER** In the movie, millions of marigolds form the bridge that connects the Land of the Living and the Land of the Dead. These golden flowers are actually an important part of Mexican culture. Many believe that marigolds' strong scent helps guide spirits to their graves during Day of the Dead celebrations.

**PROTECTIVE PUP** Before entering the Land of the Dead, Miguel befriends a hairless dog named Dante that joins him for his journey in the magical world. Dante resembles a real-life Mexican dog breed known as "xolos" (pronounced shoh-LOHS). Named after the Aztec god Xolotl (pronounced shoh-LOH-tíl), the dogs are believed to guard homes from evil spirits.



MIGUEL (LEFT) AND DANTE SEE THE LAND OF THE DEAD FOR THE FIRST TIME FROM THEIR SPOT ON THE MARIGOLD BRIDGE.







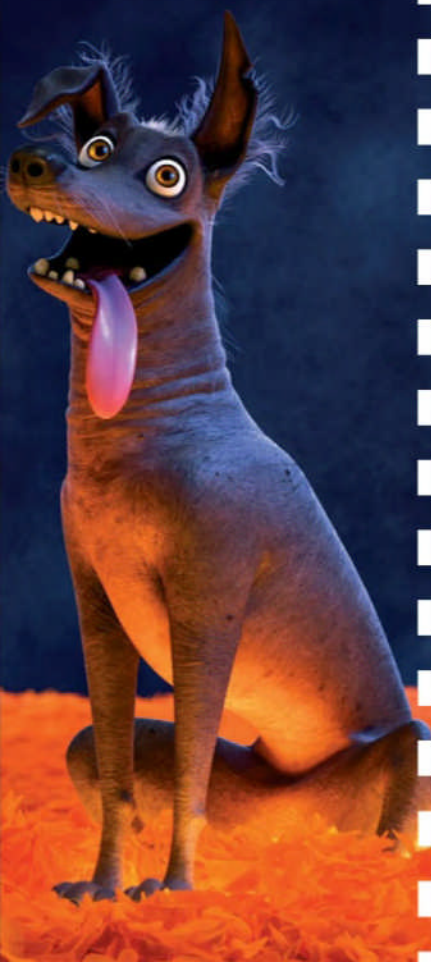
# FERDINAND

FERDINAND THE BULL (ABOVE) TAKES A WILD RIDE WITH HIS NEW FRIENDS LUPE THE GOAT (LEFT), UNA AND QUATRO THE HEDGEHOGS (FAR RIGHT), AND DOS THE RAT.

**BUDDY SYSTEM** After Ferdinand, a bull with a big heart, is mistaken for a dangerous beast, he's separated from his family. Luckily Lupe the goat, along with a pair of mischievous hedgehogs and one rat, helps him get back home. In real life, bulls don't always play well with others—four-legged creatures or otherwise. Although bulls often live peacefully with their herd of cows and a few other bulls, they show dominance by being aggressive around other farm animals and humans. In fact, because of their size and personality, bulls have the potential to be one of the most dangerous domestic animals, according to dairy specialist J.W. Schroeder.

**FEELING THE BURN** Ferdinand goes *bull-istic* when he feels a bee sting him. A real bull's skin—called its hide—can be up to several times thicker than a human's, which helps protect the animal from weather such as hail and windburn. But the hide is still sensitive, and a bee sting still feels like, well, a bee sting. The insect injects its target (bull or human) with venom that contains a chemical called melittin, which causes nerve cells to think they're literally on fire.

**FANCY FEET** In one scene, Ferdinand and a few other bulls enter a dance off against a group of elegant horses. Despite their weight, which is typically around 2,000 pounds, bulls are actually known to appear quite graceful. That's because their hooves allow them to grip the ground and pivot in smooth-looking circles to quickly change directions ... sort of like ballerinas!



## ON LOCATION

Check out the map to see where these movies are set!



## MORE MOVIE SCOOP!

Go online to watch a trailer and check out photos from *Ferdinand*.

[natgeokids.com/december](http://natgeokids.com/december)



**games, laughs, and lots to do!**



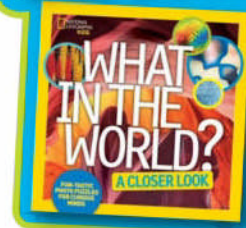
It's chaos on this crazy movie set in Hollywood. Eleven things beginning with the letter c have gone missing. Can you find the missing items in the scene so the show can go on?

ANSWERS ON PAGE 33



# What in the World?

CHECK OUT THIS BOOK!



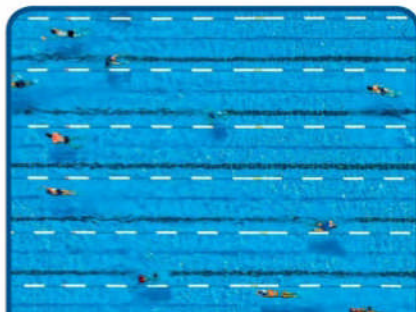
## TRUE BLUE

These photographs show close-up and faraway views of things that are blue. Unscramble the letters to identify what's in each picture. Feeling blue?

ANSWERS ON PAGE 33



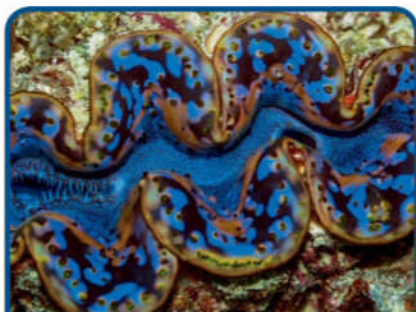
NLBLOOA



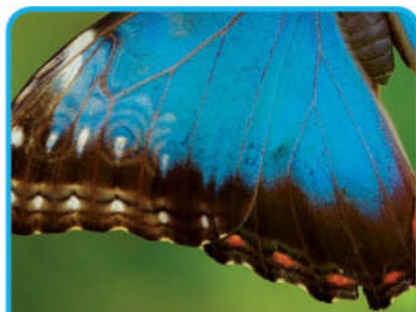
GMSIMIWN  
OLOP



LEDERDI



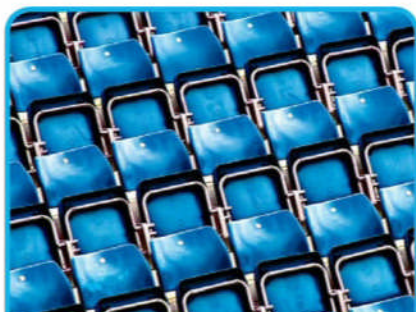
LMAC



TBLRYUTEF



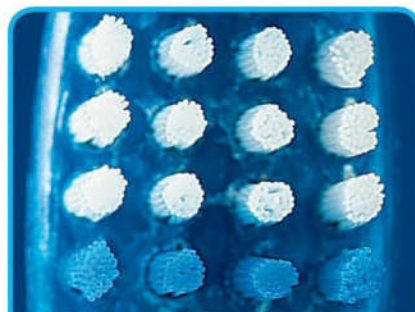
AMAWC



DMTAISU TSSAE



EGPNSO



HOBHORTUST

TOP ROW (LEFT TO RIGHT): © ARTPARTNER-IMAGES.COM / ALAMY; NAFOSKA / SHUTTERSTOCK; PNC / PHOTODISC; GETTY IMAGES. MIDDLE ROW (LEFT TO RIGHT): KHOROSHINOVA OLGA / SHUTTERSTOCK; DOBERMANER / SHUTTERSTOCK. BOTTOM ROW (LEFT TO RIGHT): MEDOIMAGES / JUPITERIMAGES; DWA / PHOTODISC; GETTY IMAGES; ESA HILTUA / ALAMY.



# CRITTER CHAT



BY ALLYSON SHAW

If wild animals used social media, what would they say? Follow this orca's day as it updates its feed.

10 a.m.



**SeaPanda**

Can I get a few likes for my new profile pic? #SpyHopSelfie

**ChillKrill**

What are you doing?



**VerySealious**

That's **SeaPanda's** way of getting to the surface to look for prey like me. So I'll steer clear of a photo bomb and dive deep.



**KingBird**

Yeah, thanks for the selfie, **SeaPanda**. It gives me a chance to catch up with **VerySealious**.



**ChillKrill**

Plus all the action's underwater anyway. No offense, but on land **VerySealious** just thumps around, and **KingBird** shuffles on the ice.



**KingBird**

Yeah, but you can't touch me when I'm swimming—I can move 11 feet a second in the water!



**SeaPanda**

Wanna race? 😊

1 p.m.



**SeaPanda**

Anybody seen my pod? About 40 orcas? I used our special call but ... no answer.

**ChillKrill**

Only 40? My swarm has BILLIONS of krill—people can see us from space!



## ORCA SeaPanda

**Live in:** Antarctic Ocean

**Likes:** High fins and fast swims

**FRIENDS**



**ANTARCTIC KRILL**  
ChillKrill



**WEDDELL SEAL**  
VerySealious



**EMPEROR PENGUIN**  
KingBird

**VerySealious**

**SeaPanda**, I think I saw your pod, um, north! Yeah, that's it! Like way north.



**KingBird**

Here, I'll GPS it for you. I think you'll love the change in latitude.



**VerySealious**

Say hi to the Brazilian surfers for us! #I'mSoSeally



2:30 p.m.



**SeaPanda**

Found my pod! Whew. My mom would have been stressed if I'd gotten lost. BIG trouble.

**VerySealious**

Trouble like when you're trapped on an ice floe surrounded by orcas? Seriously, you don't know the MEANING of trouble.



**ChillKrill**

Chill, bros. Just go with the flow and float with the current like me and my swarm. It's all good. 😊



**KingBird**

**SeaPanda's** just worried his mom will be mad. I don't get it! My three-month-old chick will be on his own in just a few months.



**SeaPanda**

I admit it ... I'm a momma's whale. #CanIGetAHighFin

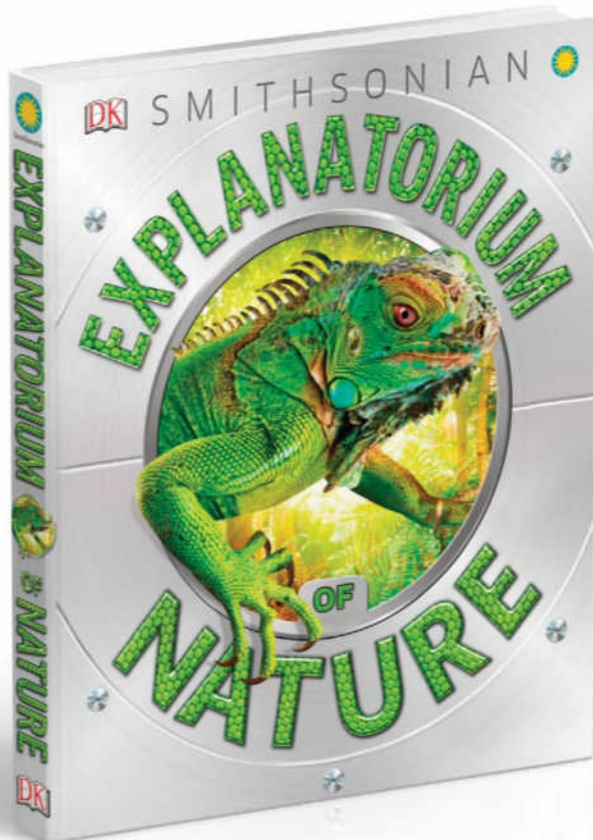


CHRISTIAN MUSAT / SHUTTERSTOCK (MAIN ORCA); BERARD AND BUFF CORSI / VISUALS UNLIMITED, INC. / GETTY IMAGES (KRILL PROFILE, ALL); WOLFGANG KAEHLER / LIGHTROCKET VIA GETTY IMAGES (SEAL PROFILE, ALL); INGO ARNDT / MINDEN PICTURES (PENGUIN PROFILE, ALL); JENS KUHR / GETTY IMAGES (ORCA PROFILE, ALL); FLIP NICKLEN / MINDEN PICTURES (KRILL SWARM); DMYTRO PLYPENKO / SHUTTERSTOCK (SEAL SELFIE); TOYEN / GETTY IMAGES (PENGUIN CHICK); TORY KALLMAN / SHUTTERSTOCK (ORCA JUMPING); GAMEBOX / SHUTTERSTOCK (CARTOON FACES, ALL)



# SEE THE WORLD

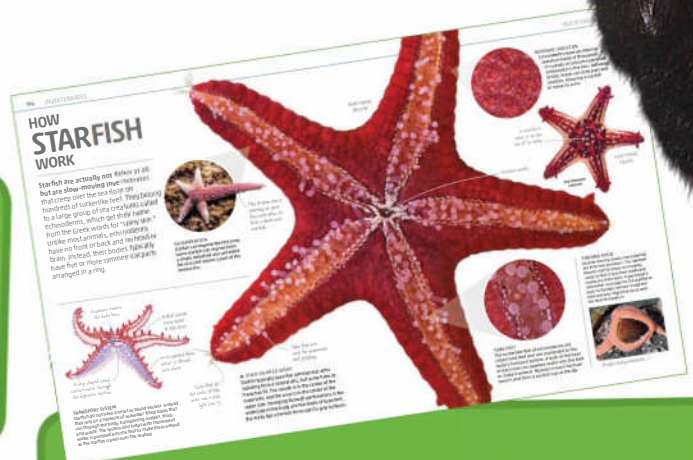
AS YOU'VE NEVER SEEN IT BEFORE!



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The ostrich is the largest living bird—although they are flightless—and the fastest animal on two legs.

A chameleon's tongue can reach prey in less than 0.07 seconds.



Starfish can regenerate lost arms. Some starfish can regrow from a single detached arm provided the arm still retains part of the central disc.

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# Art Zone

## DREAM JOB

Check out these cool careers drawn by Nat Geo Kids readers.



▲ **Paleontologist**  
Harrison J., 10  
New London, Wisconsin

▶ **Author and Illustrator**  
Paul H., 8  
New Orleans, Louisiana

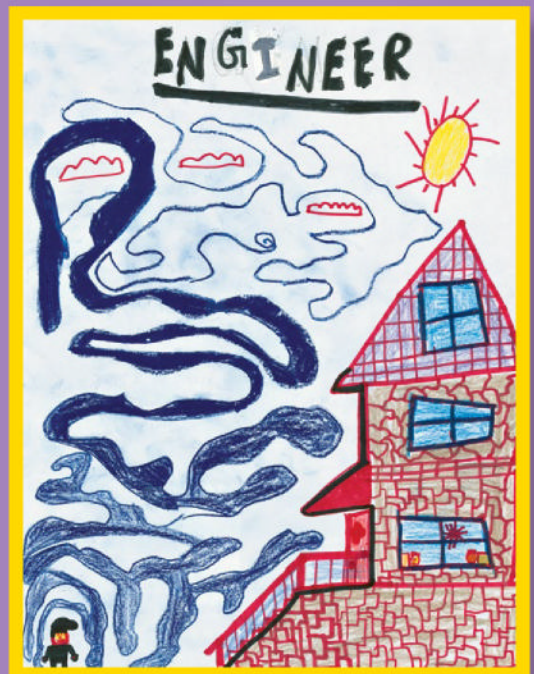


▼ **YouTube Gamer**  
Boston L., 12  
Regina, Canada

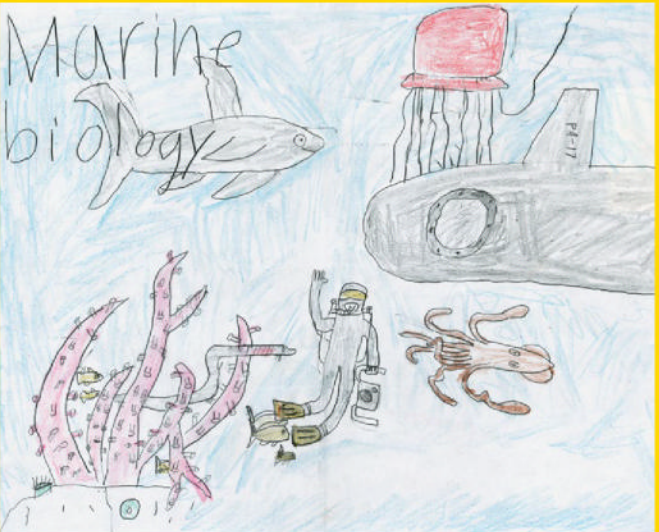


▶ **Photographer**  
Amelie P., 8  
Kingwood, Texas

▼ **Engineer**  
Andrew T., 10  
Toronto, Canada







▲ **Marine Biologist**  
Colton K., 11  
Bend, Oregon



▲ **Soccer Player**  
Arlie A., 11  
Morton, Illinois



▲ **Horse Trainer**  
Mia C., 11  
Price, Utah



▲ **Doctor**  
Isabella F., 9  
Mountain House,  
California



▲ **Astronaut**  
Jayden G., 11  
Wausa, Nebraska

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3. Non USPS Distributed	86,417	84,506
4. Other Classes Mailed Through USPS	-	-
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J. PERCENT PAID	99%	99%

## Answers

9. A, 10. B.  
D. 2. B, 3. B, 4. C, 5. B, 6. C, 7. A, 8. A,  
"Stump Your Parents" (page 34): 1.  
sponge, toothbrush.  
mccown, Bottom row: stadium seats,  
dreidel, Middle row: clam, butterfly,  
Top row: balloon, swimming pool,  
"What in the World?" (page 29):



"Movie Madness" (page 28):

## Up Next

Draw a **place** you'd like to explore.

Send us your  
original drawings:

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Include your name, address, phone number, date of birth, a title for your drawing, a statement that it is your own work, and the name of your parent or guardian. Your parent or guardian must sign a release for publication if your illustration is selected. Submissions become the property of National Geographic Partners, and all rights thereto are transferred to National Geographic Partners. Submissions cannot be acknowledged or returned. Selection will be at the discretion of Nat Geo Kids.



From the pages of **QUIZ WHIZ:**

# STUMP YOUR PARENTS

If your parents can't answer these questions, maybe they should go to school instead of you!

ANSWERS ON PAGE 33



- 1** Where is the world's tallest building?
- |                       |                                |
|-----------------------|--------------------------------|
| A. New York, New York | C. Moscow, Russia              |
| B. Chicago, Illinois  | D. Dubai, United Arab Emirates |

- 2** More \_\_\_\_\_ live in New Zealand than people.
- A. river otters  
B. sheep  
C. koalas  
D. unicorns



- 3** In what parts of your body are there 500,000 sweat glands?
- |            |             |
|------------|-------------|
| A. armpits | C. eyeballs |
| B. feet    | D. hands    |

- 4** About how many teeth will a shark lose in its lifetime?
- |           |            |
|-----------|------------|
| A. 4,000  | C. 30,000  |
| B. 23,000 | D. 120,000 |

- 5** In the virtual world of *Animal Jam*, which land is most similar to the Arctic on Earth?
- A. Appondale  
B. Mount Shiveer  
C. Lost Temple of Zios  
D. Crystal Sands

**CHECK OUT  
THE BOOK!**



- 6** A dog's eye has how many eyelids?
- A. 1  
B. 2  
C. 3  
D. 422



- 7** The first space tourist to visit the International Space Station paid how much for a 10-day trip?
- |                  |                |
|------------------|----------------|
| A. \$20 million  | C. \$1 billion |
| B. \$100 million | D. nothing     |



- 8** Match these *Harry Potter* characters with their pets.
- |                       |                        |
|-----------------------|------------------------|
| A. Ron Weasley        | 1. Fawkes the phoenix  |
| B. Hermione Granger   | 2. Trevor the toad     |
| C. Neville Longbottom | 3. Fang the dog        |
| D. Hagrid             | 4. Crookshanks the cat |
| E. Dumbledore         | 5. Pigwidgeon the owl  |

- 9** What type of bat can eat 600 mosquitoes in an hour?
- A. little brown bat  
B. big brown bat  
C. leaf-nosed bat  
D. fruit bat



- 10** The most poisonous frog in the world is \_\_\_\_\_.
- A. the blue poison dart frog  
B. the golden poison frog  
C. the red-eyed tree frog  
D. the American bullfrog



**BLUE POISON  
DART FROG**

2013 © SERGEY ALIMOV / GETTY IMAGES (BUILDINGS); NORA CAROL SAHININ / 500PX / NATIONAL GEOGRAPHIC CREATIVE (NEW ZEALAND); SORIN RECHITAN / EYEEM / GETTY IMAGES (DOG); NASA / PAOLO NESPOLI (INTERNATIONAL SPACE STATION); GLOBE PHOTOS / ZUMA PRESS (HARRY POTTER); MICHAEL & PATRICIA FODDEN / MINDEN PICTURES (FROG)





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**Awesome Animals!**

 **NATIONAL  
GEOGRAPHIC  
KIDS**



**BLACK-TAILED PRAIRIE DOG**



## BLACK-TAILED PRAIRIE DOG

**A This animal is a kind of dog.**

FALSE: A prairie dog is a rodent, closely related to tree squirrels.

**B A kiss hello means you're part of the family.**

TRUE: Family members greet each other by gently touching teeth.

**C Black-tailed prairie dogs are as American as apple pie.**

FALSE: These prairie dogs are found in Canada and Mexico as well as in 11 states.

**D Prairie dogs live in towns.**

TRUE: Prairie dog towns are complex tunnel systems with subdivisions and even security guards. Modern prairie dog towns are less than half a square mile. In the past, one town covered 25,000 square miles.

**E A prairie dog is so small it could curl up on this card.**

FALSE: At 14 to 17 inches long, it could relax on an open copy of this magazine.

KONRAD WOTHE / MINDEN PICTURES



**Awesome Animals!**

 NATIONAL  
GEOGRAPHIC  
**KIDS**



**DEBRAZZA'S MONKEY**



## DEBRAZZA'S MONKEY

**A**

**Female DeBrazza's monkeys could get the bearded lady job at a carnival.**

TRUE: Both males and females have a white beard.

**B**

**Chimps are these monkeys' BFFs.**

FALSE: Chimpanzees, eagles, leopards, pythons, and sometimes humans hunt DeBrazza's monkeys.

**C**

**These monkeys would totally win at freeze tag.**

TRUE: They freeze when scared. The monkeys have been known to remain motionless for up to eight hours.

**D**

**If its head is bobbing, it's grooving to a tune stuck in its mind.**

FALSE: A head bob is a threat, especially if it's also staring with an open mouth.

**E**

**When dining with them, it's rude to stuff your face.**

FALSE: A DeBrazza's stuffs its cheek pouches with fruit and seeds and then eats its meal later in a safer place.

GERRY ELLIS / MINDEN PICTURES



# Awesome Animals!



**RED-KNOBBED SEA STAR**



## RED-KNOBBED SEA STAR

**A It is a star, but not a fish.**

TRUE: That's why scientists call these invertebrates sea stars, not starfish.

**B This is a life-size photograph.**

FALSE: A red-knobbed sea star can be the size of a dinner plate.

**C Sea stars belong in the sea, not in a souvenir shop.**

TRUE: Thousands of red-knobbed sea stars are taken from the ocean and sold as tourist trinkets, putting this and other sea star populations at risk.

**D Predators love nibbling on this animal's arms.**

FALSE: Scientists think that the red-knobbed sea star's spiny armor probably protects it from predators.

**E The red-knobbed sea star chews its food with sharp teeth.**

FALSE: A sea star doesn't have teeth. To eat, it slides its stomach out of its body, covers the food, digests it, and then reels the stomach back inside. (Cool and gross!)

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# Awesome Animals!



 NATIONAL  
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**COMMON ZEBRA**



## COMMON ZEBRA

**A When a predator attacks, it's every zebra for itself.**

FALSE: If one is attacked, family members surround the injured animal, facing the predator ready to fight.

**B Zebras live in harems.**

TRUE: A harem includes a stallion (an adult male) and a few females. A herd is formed when harems and bachelor groups gather together.

**C You can tell where a zebra lives by its stripe pattern.**

FALSE: Stripes are as individual as fingerprints. Scientists use the patterns to identify individuals.

**D Common zebras are endangered.**

FALSE: Their population numbers are holding steady.

**E A cowboy might tell you a zebra is about 14 hands tall.**

TRUE: Horses are measured by "hands." A hand is four inches. A zebra is around 56 inches tall—the size of a large pony.

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**Awesome Animals!**

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**OCELOT**



## OCELOT

**A Ocelots can smell better than you but not as well as your dog.**

TRUE: Ocelots have an excellent sense of smell—better than a human's but not quite as good as a dog's.

**B Ranchers like ocelots.**

TRUE: Ocelots keep the rodent population in check and do not eat livestock.

**C Ocelots make great pets.**

FALSE: They are wild and do not safely adjust to a home environment.

**D The common name “ocelot” comes from an Aztec word.**

TRUE: *Tlalocelotl* means “field tiger.” The ocelot's scientific name, *Leopardis pardalis*, means “like a leopard” in Latin.

**E There are lots of ocelots living in the wild.**

FALSE: Populations are in jeopardy due to habitat destruction and overhunting. Ocelots are hunted for their fur as well as for the illegal pet trade. They live in North, Central, and South America.

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**Awesome Animals!**



 **NATIONAL  
GEOGRAPHIC  
KIDS**

**VICTORIA CROWNED PIGEON**



## VICTORIA CROWNED PIGEON

**A To find a Victoria crowned pigeon, listen for a sound like someone blowing into a glass bottle.**

TRUE: But you have to be in the forests of New Guinea or nearby islands. Otherwise it really is a person blowing into a bottle.

**B This bird even eats bats and rats.**

FALSE: It eats fruit, berries, seeds, and insects. Sometimes it splurges on a snail.

**You might want to avoid walking under a well-fed flock.**

**C** TRUE: Think “big bird droppings.” A Victoria crowned pigeon weighs seven times more than a city pigeon.

**Its magnificent feathers match its bold, aggressive personality.**

**D** FALSE: Beautiful feathers and a low-key, gentle nature combine to make it a very desirable target of human hunters.

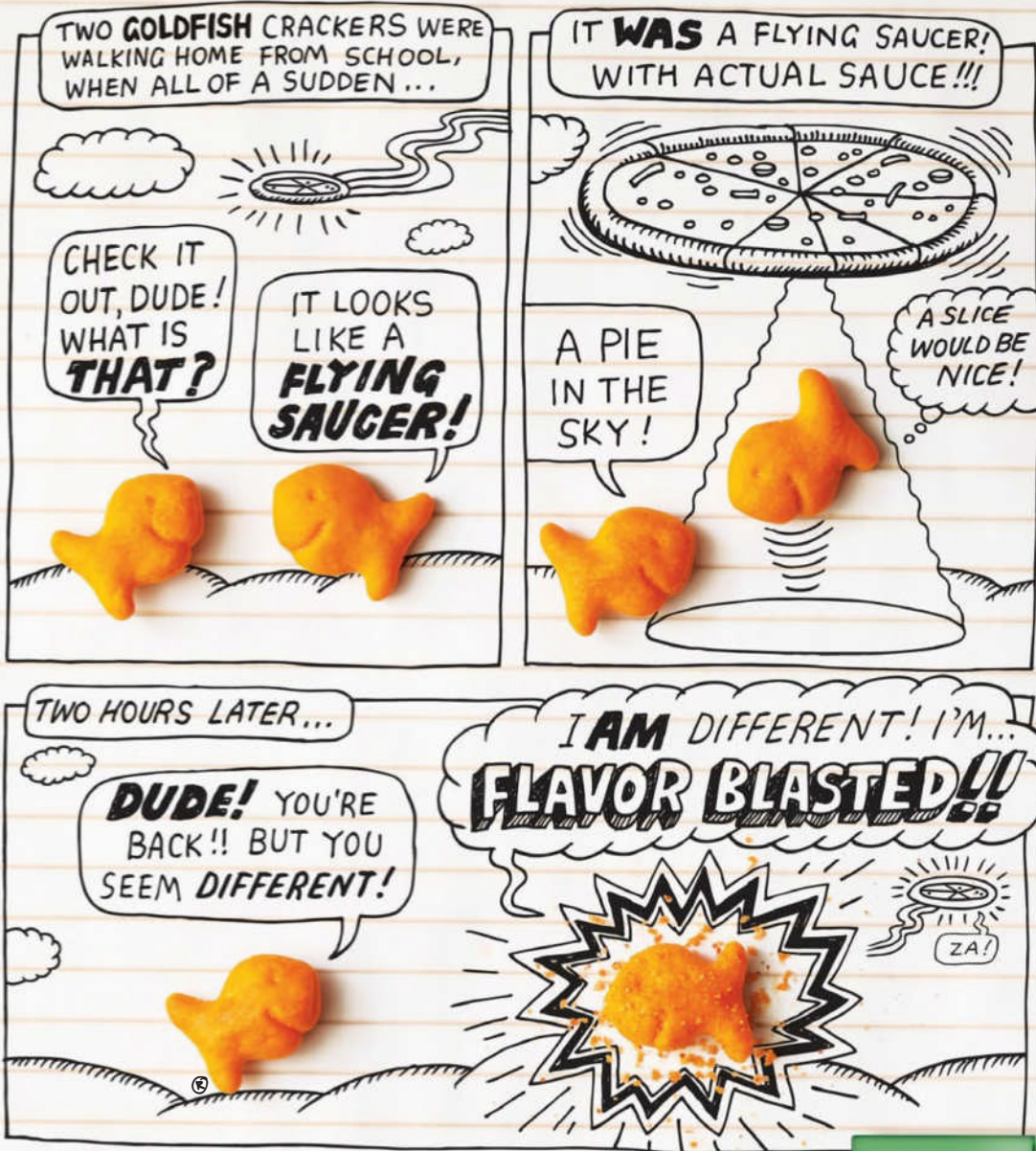
**E These birds stay with their sweethearts forever.**

TRUE: They mate for life.

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