



NATIONAL
GEOGRAPHIC

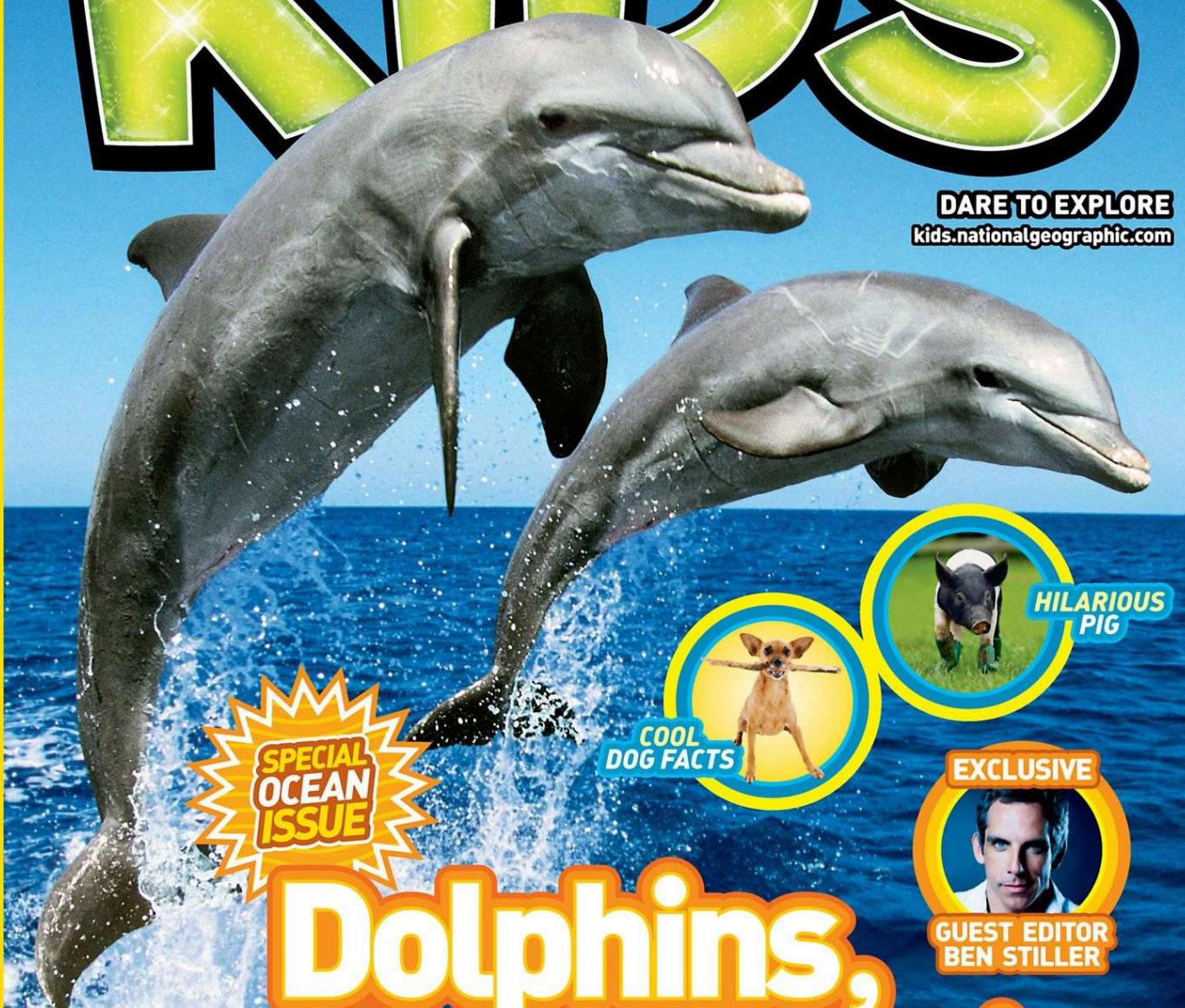
Plus...
Games,
Jokes, and
More!

HELP SET A GUINNESS
WORLD RECORD!

KIDS

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SPECIAL
OCEAN
ISSUE

Dolphins, Sharks, Penguins, and more!

NATIONAL
GEOGRAPHIC

APRIL 2009
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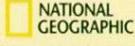
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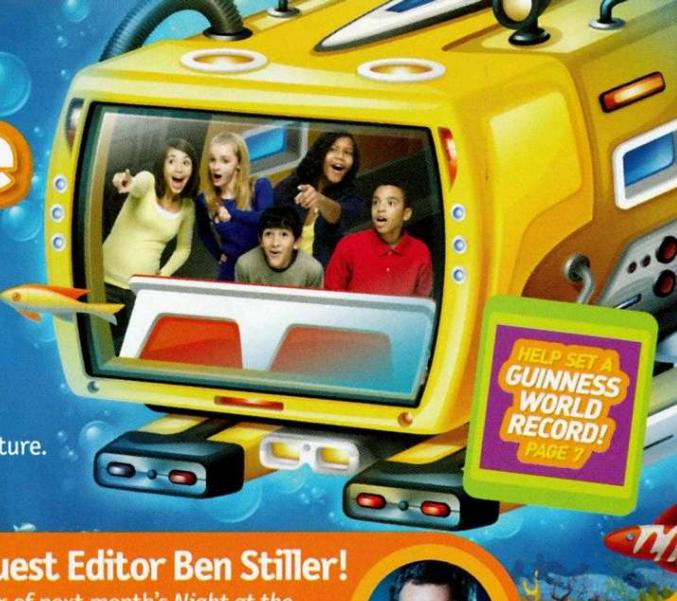
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Undersea Safari 12-27

Come face-to-face with awesome sea creatures and discover amazing ocean fun facts on this around-the-world adventure.



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Witness a bottlenose dolphin rescue at your first stop on this undersea safari.



2 Caribbean Sea 16

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Just for KIDS online!

Go online to watch whale shark videos, compete in the Great Turtle Race game, and meet marine ecologist Enric Sala and other NG explorers! kids.nationalgeographic.com



On the Cover

Bottlenose dolphins are naturally playful and often leap out of the water.

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COVER INSERTS: ALLOY PHOTOGRAPHY / VEER (DOG); © ROSS PARRY AGENCY (PIGI); MICHAEL MULLER / STOCKLAND MARTEL (STILLER); PAGE 2: REBECCA HALE / NGS STAFF (KIDS), TYSON MANGELSDORF (SUBMERSIBLE ART), IMAGE DIGITALLY COMPOSED; MICHAEL MULLER / STOCKLAND MARTEL (STILLER); JURGEN AND CHRISTINE SOHNS / PHOTOLIBRARY (IDOLPHINI); © BRANDON COLE (CORAL REEF); © MIKE PARRY / MINDEN PICTURES (SEA TURTLE); © GARY BELL / OCEANWIDEIMAGES (WHALE SHARK); © GERALD KODYMAN / CORBIS (PENGUINS); © 2008 JOHN WARDEN / ALASKASTOCK (SEA OTTERS); © HIROYA MINAKUCHI / MINDEN PICTURES (BELUGAS); NATHAN JUREVICIUS (ZIPPER)

Check out these 10 outrageous facts.



MESSAGES FROM YOUR BRAIN TRAVEL ALONG YOUR NERVES AT UP TO 200 MILES AN HOUR.



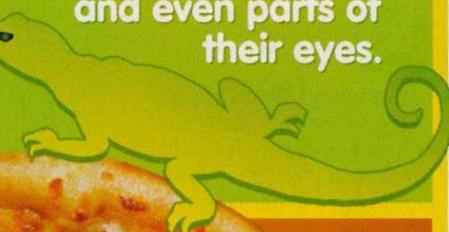
DOLPHINS CAN HEAR SOUNDS UNDERWATER THAT ARE 15 MILES AWAY.



IF YOU TRAVELED AT THE SPEED OF LIGHT, YOU COULD REACH PLUTO IN JUST FOUR HOURS.

In outer space,
liquids become
sphere-shaped.

Some salamanders can regrow their tail, legs, and even parts of their eyes.



The world's largest pizza was 122 feet, 8 inches across and weighed 26,883 pounds, as much as two male African elephants.

The first bubble gum, made in 1906, was called "Blubber-Blubber."

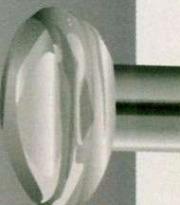
Baby RATTLESNAKES are born without RATTLES.

IF YOU NEVER CUT YOUR HAIR,

IT COULD GROW MORE THAN 30 FEET IN YOUR LIFETIME—

LONG ENOUGH TO REACH FROM A THIRD-STORY WINDOW TO THE GROUND.

ABOUT TEN THOUSAND OF THE CELLS IN YOUR BODY COULD FIT ON THE HEAD OF A PIN.



COOL inventions

BY DOUGLAS E. RICHARDS

SUPERFAST SHOES

Need to get somewhere in a hurry? Then strap on a pair of Motorshoes. These motorized, battery-powered shoes can reach speeds of 15 miles an hour. You can zoom around for several miles on a single charge. Control your speed with a finger touch pad, and when you want to stop, use the Motorshoes' built-in brakes. Once these three-wheeled skates are available, you can cruise around park paths or play racing games with your friends. Set up some cones on a basketball court or other concrete surface and you're off!



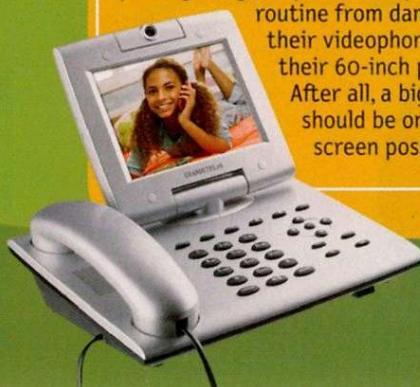
TALKING PET BOWL

Even if you can't be home to keep your pet company, your voice can be there. With the ChatterBowl, you can be sure Fido hears a message from his best friend: you! Just speak into the ChatterBowl's removable TalkBox to record your voice. A sensor in the TalkBox replays your message whenever your pet comes near the bowl to eat or drink. And you can change messages as often as you like. You can also get a second TalkBox (without the bowl) to put inside your bedroom doorway. If your sister tries to sneak into your room, the TalkBox can scream, "STAY OUT!" An invention that can comfort your pet and startle your sister? Unbelieva-bowl!



VIDEO PHONE

If you can't wait for your friends to see your new necklace or the latest addition to your bug collection, the Grandstream Videophone is just what you need. The phone has an auto-focusing camera that transmits real-time video of everything in its view. That way when you phone your friends, you can do more than tell them about your new stuff—you can show them. The Grandstream even lets you transmit the picture to a TV. So when you phone your grandparents to perform that new routine from dance class, make sure their videophone is hooked up to their 60-inch plasma television. After all, a big star like you should be on the biggest screen possible.



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Coraline

The Game



Join Coraline in her thrilling adventure through two distinct worlds filled with unique characters and fun mini-games.



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Wii



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D3PUBLISHER

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STORIES FROM
THE FILES OF

Guinness World Records

BIG BUNNY

How long is Amy the rabbit? She's so big—two feet eight inches from the tip of her nose to the end of her tail—that she sleeps in a dog kennel. Each day the longest rabbit on record eats a bowl of rabbit food, two apples, several carrots, hay, and half a cabbage. She may have a big appetite, but she's a picky eater. Amy won't eat her carrots unless the stems are still attached.



AWESOME!



UNDERWATER CAR

Soon you may not need to haul your boat to the lake. Your car might be your boat—and more! The Rinspeed sQuba holds the record for the first fully submersible car. Drive it into the water and it floats until you open the door to let in water. Put on your breathing apparatus before the sQuba sinks, then steer it to a depth of 33 feet. The best part? sQuba is battery powered, so you get a zero-emission ride.

SHORT AND TALL

Photographers may have needed a special lens when the woman with the longest recorded legs met the shortest-known man who can walk. At four feet four inches long, Svetlana Pankratova's legs are nearly twice as tall as two-foot-five-inch He Pingping. The man surprises many people by leading a normal life despite his small size: He runs a restaurant and drives a car. Pankratova, though, surprised no one when she did what a lot of tall people do: She played basketball in school.



Go online for more information about Guinness World Records! kids.nationalgeographic.com/Videos

YOU CAN HELP SET A GUINNESS WORLD RECORD!

**SEND US
YOUR OLD JEANS!**

IT TAKES ABOUT
500 PAIRS OF
JEANS TO RECYCLE
ENOUGH DENIM TO
INSULATE ONE
AVERAGE-SIZE U.S.
HOUSE. SO SEND
US LOTS!

**HELP US CREATE THE WORLD'S
LARGEST COLLECTION OF
CLOTHES TO RECYCLE.**

Jeans will be donated to "COTTON. FROM BLUE TO GREEN." This denim drive recycles jeans into UltraTouch insulation, which is used to help build houses in places that have been damaged by hurricanes, tornadoes, and other natural disasters. Your jeans will help set a record, keep clothes out of landfills, and build homes for families to live in!



JEANS MUST BE RECEIVED

By June 30, 2009.

Go online for weekly updates
on the number of jeans we have!
kids.nationalgeographic.com

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and all rights thereto are transferred to the National Geographic Society.
Submissions cannot be acknowledged or returned.



KICKOFF EVENT! Visit any Build-A-Bear Workshop March 27-29, 2009, to donate your jeans! As a thank-you, you'll get a free virtual gift to use at buildabearville.com. (One offer per guest while quantities last.)

▼ FOLLOW THESE RULES TO HELP US
CREATE THE LARGEST COLLECTION
OF CLOTHES TO RECYCLE.

- 1 Get a parent's permission and select as many denim jeans as you like. (Any denim clothing is OK.)
- 2 The denim must be used.
- 3 The denim can be any brand.
- 4 The denim can be any color or size but must have been worn by a human.
- 5 Send as many jeans or denim items as you wish to:
NG KIDS/ Set a Guinness World Record
P.O. Box 98001
Washington, DC 20090-8001
- 6 For shipments that cannot be delivered to a P.O. box:
NG KIDS/ Set a Guinness World Record
1145 17th St. NW
Washington, DC 20036

**HELP US KEEP COUNT BY INCLUDING THIS FORM WITH
EACH PACKAGE!**

Parent/guardian's name (please print)

Adult leader's name and organization (for school drives, Scouts, etc.)

City/State

Number of denim items in this package

SIDE PRIES / GETTY IMAGES [BIG IMAGE]; JEFFREY COOLIDGE / GETTY IMAGES [HOLE]; IMAGE © COTTON. FROM BLUE TO GREEN. IS A REGISTERED TRADEMARK OF COTTON INCORPORATED.

Bet you
didn't
know

BY ERIN WHITMER

7 fetching facts about dogs

1 The
Chihuahua

is the world's
smallest
dog breed.

3 The
Basenji,
a dog from Africa,
yodels
instead of
barks.

5 A
miniature
schnauzer-poodle
mix is called a
schnoodle.

2 A
dog's **nose**
print is as
unique as a

human
fingerprint.

4 George
Washington
had a Dalmatian
named
Sweetlips.

6 Tia
the Neapolitan
mastiff gave
birth to **24**
puppies
in one litter.

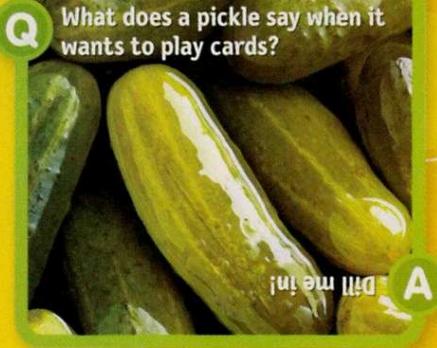
7 You can buy
a **diamond**
dog collar
for about
3 million
dollars.

Just Joking

Icelandic pony

KNOCK,
KNOCK.

Who's there?
Aardvark.
Aardvark who?
Aardvark a million
miles for you!



TONGUE TWISTER!

Say this fast three times:
Quick crazy quackers count crackers.

Q You've got to be joking...

What do

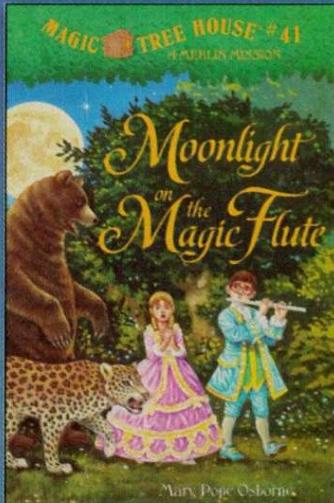
rabbits
listen to?

-doh-doh-

A

MAGIC TREE HOUSE

Meet Mozart
with
Jack and Annie!



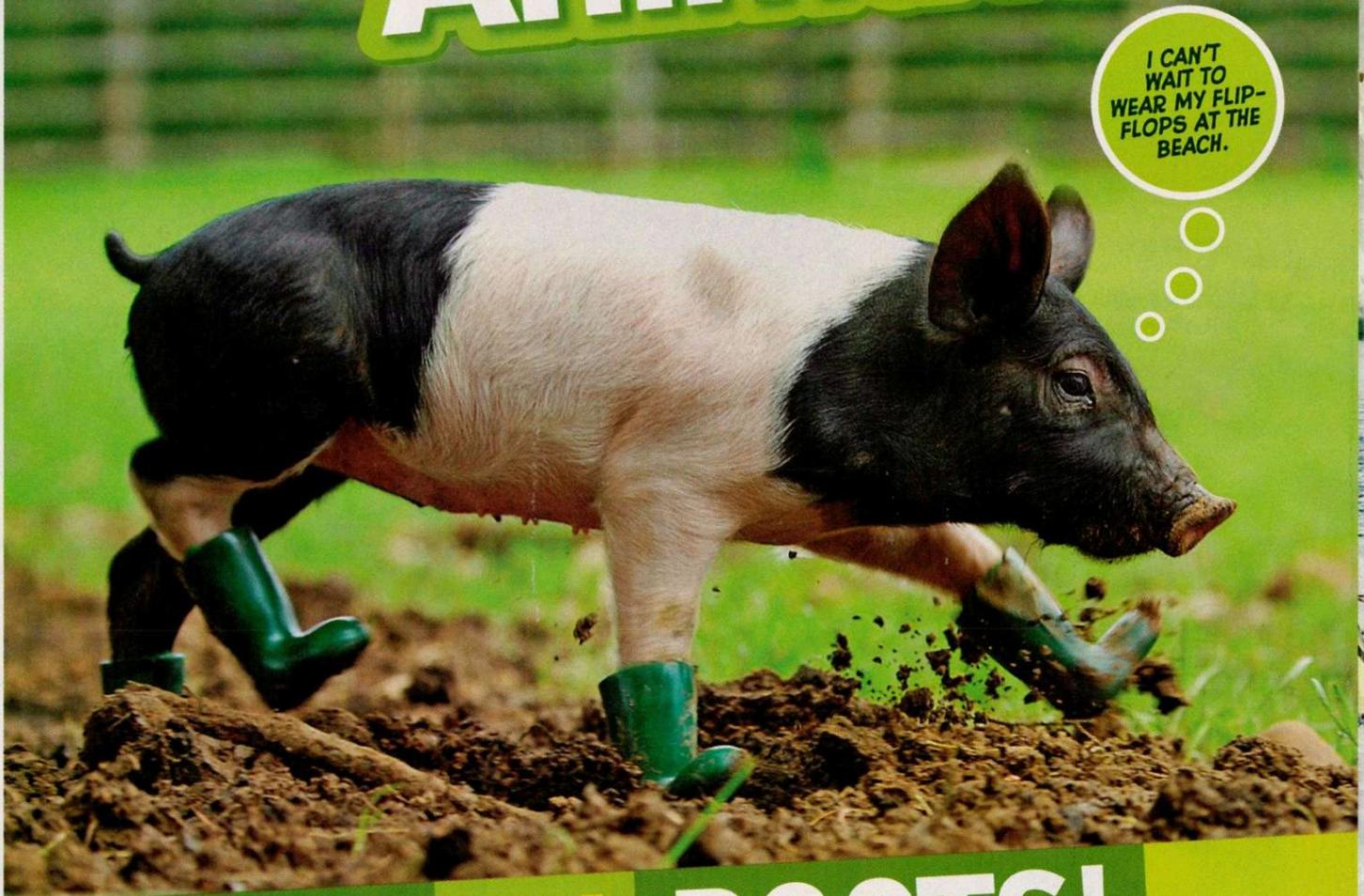
Jack and Annie are searching for Mozart in 18th-century Austria—but a mischievous little boy puts their search on hold when he lets the animals out of the palace zoo.

Log on to
www.mthmusical.com
for more information
about the
Magic Tree House
Musical!



www.magictreehouse.com

Amazing Animals



PIG IN BOOTS!

Thirsk, England

Most pigs love wallowing in the mud. Not Cinders the pig. As a piglet, she refused to walk in mud, sometimes even shaking with fear if she couldn't find a way around a puddle. The solution? Boots!

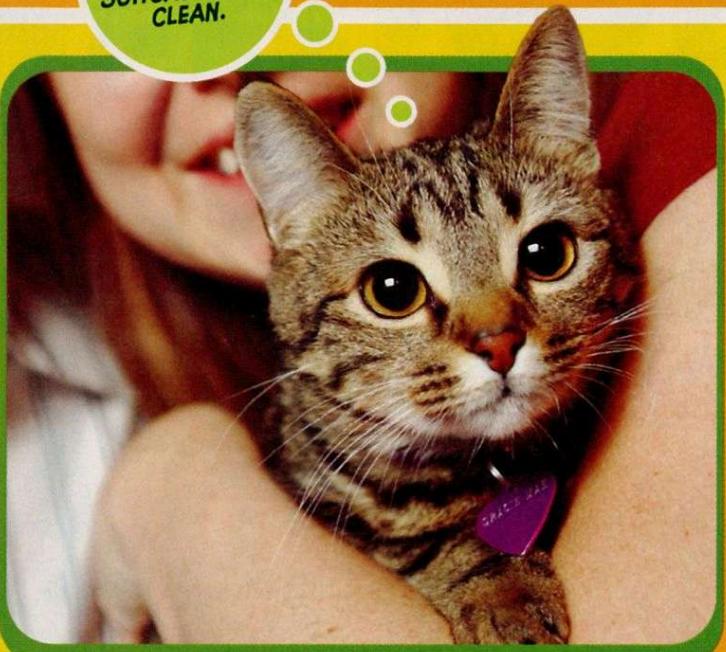
Owner Andrew Keeble found that doll-size boots were a perfect fit for Cinders. Each day, she'd run to have them put on, then trot happily through the mud. The boots solved the problem but didn't explain her strange actions. Veterinarian Bruce Lawhorn of Texas A&M University thinks it might have been a behavioral response. "If Cinders had sore hoof pads while walking in mud, she might have associated the pain with the mud," he says.

Cinders has outgrown her boots and now braves the mud barehoofed. But she still doesn't roll around in it. Getting dirty just isn't this pig's idea of a good time.



A pig's funny-looking snout helps the animal dig.

AT
LEAST THE
CLOTHES IN THE
SUITCASE WERE
CLEAN.

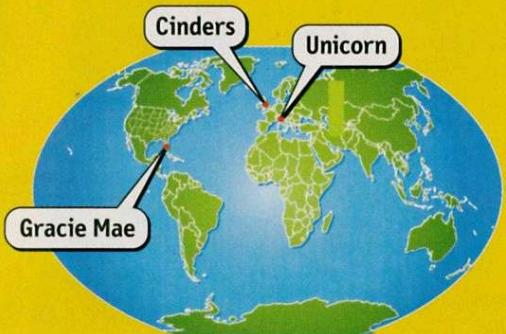


BY HEATHER E. SCHWARTZ

CAT TAKES TRIP

Palm Beach Gardens, Florida

When Gracie Mae the cat spotted an open suitcase, she did what many cats do: She hopped inside and burrowed under the clothes. Never realizing she was inside, owner Seth Levy closed the suitcase and headed to the airport. That's when Gracie Mae's adventure began. Still in the suitcase, the cat went through an x-ray machine and into the plane. She flew from Florida to Dallas, Texas, then shot down the ramp into baggage claim, where the wrong passenger picked up the suitcase. Finally, nine and a half hours later, a hungry, cranky Gracie Mae escaped—to the surprise of the other passenger, who quickly called Levy's wife, Kelly. "She was back to her affectionate self the next day," she says. These days, Gracie Mae flies in a carrier. After her adventure, she must feel as if she's flying first class.



One legend says that a unicorn's horn neutralizes poison.



REAL-LIFE UNICORN?

Prato, Italy

Ever seen a unicorn? At the Center of Natural Sciences, a nature reserve in Italy, you just might. The creature is actually a roe deer with a rare, single "horn" growing from the center of its head. Most male roe deer have two short antlers. A roe deer is occasionally born with just one antler, but it usually grows on the side of its head. That's what makes this deer, nicknamed Unicorn, so unusual. Experts say a genetic flaw may be responsible for the single antler's placement. They also think that deer similar to this one could explain the unicorn myth. This unicorn doesn't have magical powers, but he definitely looks as if he could.

GO ON AN UNDERSEA SAFARI WITH GUEST EDITOR **BEN STILLER**

INTERVIEW BY RACHEL BUCHHOLZ

In next month's movie *Night at the Museum: Battle of the Smithsonian*, Ben Stiller plays Larry, a guy who's trying to save the world from an evil pharaoh brought back to life by a magic tablet. In real life, Stiller really *does* want to save the world, and one way to do that is to protect the oceans. That's why he's the guest editor for this month's Special Oceans Issue. You'll board an imaginary submarine and go on an underwater safari to meet sea otters, penguins, and other cool creatures. Need more inspiration to save the oceans? Check out his interview with NG KIDS.

NATIONAL GEOGRAPHIC KIDS: Why is it important to protect the world's oceans?

BEN STILLER: Oceans are such an important part of our environment. A healthy Earth depends on healthy water. How we live really affects the entire planet—including oceans—because all the ecosystems are connected. So we have to take care of the planet.

NGK: There's another reason why oceans are special to you.

BEN: Yes, I'm a scuba diver.

NGK: What do you like most about diving?

BEN: It's like you're floating in space. And it's incredible to explore a world that's so different from ours.

NGK: In the movie, you're chased by a giant squid. Have you ever seen a squid while scuba diving?

BEN: No, but I've seen lots of eels and some sharks. That was intense!

NGK: If you could be any water animal, what would it be?

BEN: A blue whale. It would be wild to see what they see when they dive deep. Amazing creatures like blue whales are another reason to protect the world's water.

NGK: When you're scuba diving, or just at the beach or a lake, what do you do to protect the water?

BEN: It's mostly common sense, like not leaving anything behind and throwing away your trash.

NGK: We also shouldn't feed or touch the animals. We're just guests.

BEN: Right. It's *their* place.

NGK: Are there things you do at home to conserve water?

BEN: Yes! I make sure to turn off the faucet when I'm brushing my teeth. And this one's fun: Flush only when necessary.

NGK: Anything else?

BEN: Just remember that everything we do affects the environment, and that includes water. So we have to treat the planet well—even if you're just turning off the lights when you leave a room.

NGK: Can kids really make a difference?

BEN: Kids have a *lot* of power. Adults pay attention when kids do things like recycle or conserve water, because it makes us see how much we should be doing ourselves. So show the adults the way it should be done!

NGK: Why is it important to work together?

BEN: We all have to do our part. If every person does something to make a difference, then the whole world ends up making a difference.

NGK: We have another way to make a difference. We want kids to send in their old jeans to set a Guinness World Record for the largest collection of clothes to recycle.

BEN: I love that idea. Everybody has a pair of worn-out, holey jeans, so this is a great way to recycle them instead of having them end up in a landfill. Just one thing, though.

NGK: Yes?

BEN: I have to donate the first pair!





MICHAEL MULLER / STOCKLAND MARTEL (STILLER); REBECCA HALE / NGS STAFF (KIDS);
TYSON MANGELSDORF (ART), IMAGE DIGITALLY COMPOSED.

NATIONAL GEOGRAPHIC KIDS 13

>> DESTINATION NORTH ATLANTIC OCEAN

FEATURES BY CRISPIN BOYER

BOTTLENOSE DOLPHINS

As you pull out to sea, a half dozen boats buzz slowly around something in a marshy area. You zoom the periscope's view for a better look. It's a young bottlenose dolphin, and it has something **stuck** around its neck!

The boats belong to a variety of agencies that all share one goal: to save the dolphin from her **choking trap**. One boat unravels a net behind it and circles the animal. The other boats creep in, urging the bottlenose to swim into the net. **Contact!** Biologists **grab** the dolphin and ease her onto floating mats, where they snip the debris—an old rubber strap—from around her neck. After a quick **checkup** by veterinarians, they release the animal. She darts away without looking back, no doubt relieved to finally be free from that **strangling debris**.

"It's the **worst case** I've ever seen of this type of entanglement," says Jenny Litz, a biologist with the National Oceanic and Atmospheric Administration. "It actually created a **deep indentation** all the way around her body." Unfortunately, bottlenose dolphins' choice of habitat puts the playful animals in greater danger of such hazards than other species. These dolphins typically live closer to shore, in waters with a higher concentration of **garbage** and old fishing gear that washes off beaches or falls from boats.

As you head for the open ocean and your next destination, Litz's tips for cutting down on marine debris stick with you. "Stash your trash at the beach," she says. "Secure anything on your boat that may fly off."

>> I'M

- R U ON SUB YET?
- YEAH. WATCHED DOLPHIN GET RESCUED.
- FROM WHAT?
- TRASH IN SEA CAUGHT AROUND NECK.
- GROSS.
- SERIOUSLY. PEOPLE SHOULD BE MORE CAREFUL.

STOP 1
YOU
ARE
HERE

MORE ABOUT THE NORTH ATLANTIC OCEAN

ALL FACTS BY C.M. TOMLIN

IS IT A BIRD? A PLANE?

It's a flying fish! Common in the Atlantic Ocean, flying fish don't really fly. Instead, they build up speed underwater then burst through the surface, gliding through the air on their winglike fins. They usually glide between 100 and 160 feet.

FORGET ABOUT HIKING THESE MOUNTAINS.

The Mid-Atlantic Ridge—seen in the middle of this satellite image—stretches 10,000 miles under the Atlantic. It's longer than the Himalaya, the Andes, and the Rockies combined.

IN THE DEEP

North Atlantic, a viperfish with long, needle-like teeth waits for prey. Fish in the pitch-black waters may not see its fearsome fangs. It's the perfect trap.

YOU'LL BE AMAZED

at how massive the schools of fish are as you cruise through them in your submersible. Scientists once spotted a school of more than ten million herring—the size of 11,500 football fields—off the coast of New Jersey.

OCEAN FUN FACT

BREAK OUT YOUR MICROSCOPE.

Scientists think there might be more than 250,000 microorganisms in one glass of seawater.



THIS INJURED DOLPHIN WAS SET FREE.

>> DESTINATION BELIZE, CARIBBEAN SEA

CORAL REEF

Lucky you! You've discovered sunken treasure off the shore of the small Caribbean country of Belize. Just below the surface of the water, miles of **vivid corals** shoot off in fantastic shapes that **shelter** tropical fish of every color. You strap on your mask, exit your submersible, and begin exploring the **second largest coral reef system** in the world.

Often called the rain forests of the sea, reefs account for **a quarter** of all life in the ocean. "Reefs are undersea cities," says Nancy Knowlton, who studies corals for the Smithsonian Institution. "They're like big **apartment complexes** for all the fishes, shrimps, clams, and other organisms that live there." The tiny corals create a tough **limestone skeleton** to live in. The structures you see are the skeletons of thousands of coral polyps piled up over the **centuries**. You swim carefully; one clumsy kick can **destroy** decades of coral growth.

Corals invite algae roommates into their limestone homes to help them survive. It's the **algae** that produce the reef's vivid colors. The algae convert **sunlight to food** for the corals, which in turn nourish the algae with their waste. But this delicate relationship is **vulnerable** to the slightest changes in global climate and ocean health. A jump of even **two degrees** in water temperature makes the coral rid itself of the algae, leaving the coral with a **sickly bleached** look. Pollution is another threat; it can **poison** the sensitive corals. It's alarming: "We've lost 80 percent of the living coral in the Caribbean in the last three decades," Knowlton says. Reefs act as an **early-warning system**: If something's wrong with the coral, the rest of the ocean could be in peril.

>> I'M

- GLUB, GLUB.
- SICK?
- NO. SNORKELING ON A HUMONGO REEF.
- AWESOME. ANY THREAT TO SEA LIFE THERE?
- POLLUTION & GLOBAL WARMING KILL CORAL. BUT STILL SAW LOTS OF FISH.
- COOL!



MORE ABOUT THE CARIBBEAN SEA



LOOK OUT! Tornadoes that occur over water, such as this one in the Caribbean Sea, are called waterspouts. Creating surface wind speeds between 45 and 200 miles an hour, these dangerous natural phenomena have been known to capsize large boats.

IT'S AMAZING

how you can see creatures such as this manta ray from so far away in the Caribbean. There is a reason the water is so clear: less plant life. On a sunny day, it's possible to see 150 feet down.

STAY AWAY

from the Portuguese man-of-war. It looks like one animal, but it's actually a colony of tiny organisms that create a predator with a very painful sting.



WHEN THIS queen angelfish was young, it may have worked as a "cleaner." Larger fish such as groupers line up at "cleaning stations," where the small queen angelfish latch onto the host fish's skin or swim into their mouths to devour tasty parasites.

OCEAN FUN FACT



BRING A CAMERA—

you may spot a never-before-seen fish. Researchers estimate that around 4,000 species of ocean fish have yet to be discovered.

LEATHERBACK TURTLES

Check out the **titanic turtle** cruising just ahead of the sub. *Whoosh!* The mysterious creature zooms into the deep. You've just been left in the wake of a leatherback turtle, the **world-champion swimmer** of the turtle family. Up to nine feet long and weighing up to a ton, it's the largest, most well traveled, deepest diving of all the sea turtles, and one of the fastest. It even has **its own annual race**.

Inspired by the leatherback's ability to cover great distances with relative ease, turtle researcher George Shillinger co-created the Great Turtle Race, a yearly event that tracks **leatherbacks** as they **migrate**. "They're masterful swimmers," Shillinger says of these reptiles. "They just kind of amble along, but if they feel threatened or simply decide that they just want to hustle, **they can really move!**" One named Billie won the 2007 turtle race after swimming more than 500 miles, at times more than 31 miles a day. That would be like you running a **marathon** every 24 hours!

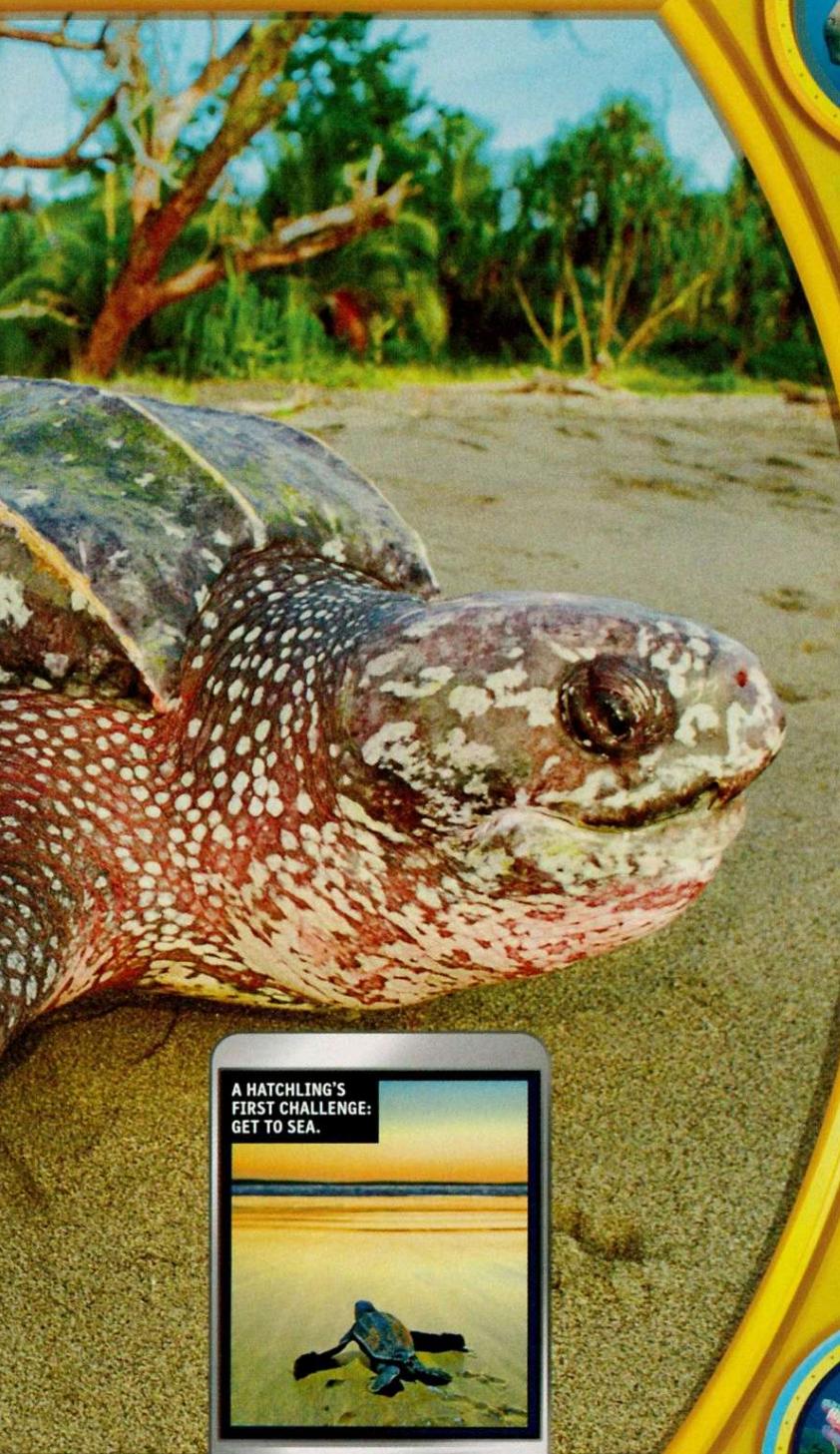
Before they grow up to be racing stars, though, leatherbacks have it rough. **Babies hatch** in nests on a sandy beach and **scramble madly** into the surf under **assault** from predators in the air and on land. Scientists figure only about **one in a thousand** hatchlings survives to become an adult. With the species severely threatened by **entanglement** in fishing nets and from **eating plastic trash**, every successful hatchling counts, and every turtle that makes it to adulthood is one **lucky survivor**.

>> I'M

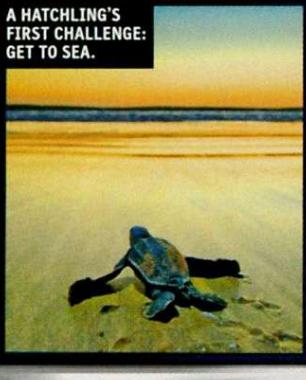
- WUZZUP?
- SAW TURTLES RACE!
- LEMME GUESS. THREAT TO TURTLES...SWIM TOO SLOW?
- LOL. NO. TRASH, FISHING NETS. SIGH.
- CHEER UP. HOW CAN UR BFFS LIKE ME HELP?
- TELL EVERYONE TO CHECK OUT TURTLE RACE ONLINE HERE kids.nationalgeographic.com



MORE ABOUT THE INDIAN OCEAN



A HATCHLING'S
FIRST CHALLENGE:
GET TO SEA.



YOU SEE WHAT LOOKS STRANGELY LIKE AN ELEPHANT

floating gently along in the Indian Ocean. The dugong, known as the "sea elephant," is a plant-eating mammal that carries its baby around on its back and sometimes stands on its tail in shallow water to peek its head out.

WATCH OUT FOR THIS DANGER ZONE.

The Indian Ocean is known for giant waves called tsunamis, which are usually caused by underwater earthquakes. They can cause coastal sea levels to rise a scary 30 feet or more.



YOU'RE FACE-TO-FACE

with a dinosaur! Well, almost. Scientists were shocked to find the coelacanth (SEE-lah-kanth), a fish thought to have become extinct 65 million years ago, living in the Indian Ocean.



YIKES! You see a seven-foot-long hammerhead shark hunting for stingrays along the ocean floor. The hammerhead's widely spaced eyes give it a better range of view than other sharks, perfect when searching for food.



ONE OF THE GREATEST REASONS TO TAKE CARE OF OUR OCEANS

is that they may take care of us. Scientists are constantly discovering new medicines from the ocean—from compounds in sponges that help heal poison ivy to chemicals in coral that may help cure cancer.

>> DESTINATION WESTERN AUSTRALIA

WHALE SHARKS

You want me to get in the water with that?" you ask, as a spotted 35-foot sea monster surges into view below your sub at Ningaloo Reef. It's a whale shark—which is not a whale, but rather the world's largest fish—and it's your mission to snap a close-up. "They look even bigger underwater," says Brad Norman, a whale shark researcher.

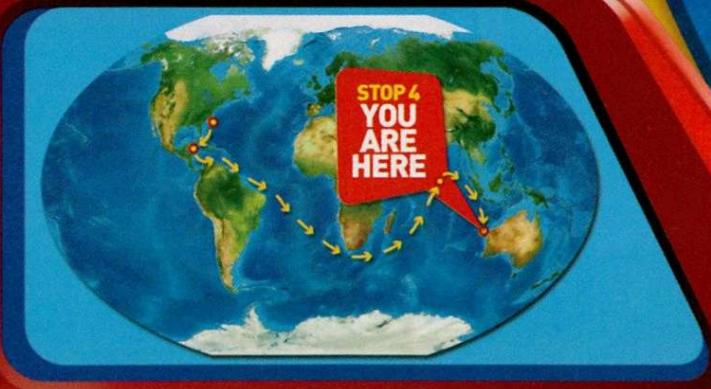
You see what he means as you begin swimming beside the huge fish. The eyes swivel to watch you, but you're not afraid. Whale sharks would rather eat tiny plankton that they sift through their gills than munch on curious swimmers. Their skin is covered in white spots. You photograph the spots to accomplish your mission.

Back on the sub, Norman uploads your picture to ECOCEAN, a conservation program that coordinates whale shark identification. The system analyzes the spots in your photo and tries to match them with pictures submitted by adventurous tourists from all over the world. "Each shark has a unique pattern of spots," Norman says. "It's like a fingerprint." The spot-matching system helps researchers track the fish's travels and monitor the species' overall health.

Every photo helps. Plankton-rich waters attract the elusive sharks, but they also spend many days in deeper water—far from cameras. By keeping tabs on the whale sharks through photos, scientists get crucial information about more than the sharks. "Because they feed on tiny prey and must find lots of it, this species could become an indicator of the health of our marine ecosystem," Norman says.

>> I'M

- GO TO THAT WEB SITE FROM YESTERDAY AGAIN.
- WHY?
- TRACK WHALE SHARKS & KEEP EYE ON OCEAN HEALTH.
- HOW?
- EAT PLANKTON.
- UMMM...NO THANKS.
- NOT U! SHARKS. SICK SEA = PLANKTON GONE = NO FOOD FOR SHARKS.



MORE ABOUT AUSTRALIA'S WATERS

ARE THOSE LITTLE BRITTLE STARS HOLDING HANDS?

Nope. They are simply sitting on the top of a seamount (an under-water mountain), snagging food as water flows by. Scientists off the coast of New Zealand found a "brittle star city" on top of a seamount almost 2,500 feet tall.



KEEP YOUR EYES PEELED.



The waters around Australia are home to one of the world's smallest fish. The stout infantfish is no longer than the width of a pencil and one of the smallest animals with a backbone on the planet.

THE BLOBFISH

looks more like a cartoon character than a fish. Its lazy strategy is probably simply to wait for something edible to swim by as it hangs out near the ocean floor.



A SMALL BLUE-RINGED OCTOPUS



scurries along the ocean floor, looking for crabs to eat. It may be beautiful to look at, but stay away: The colorful creature contains enough venom to kill several humans.

OCEAN FUN FACT

TAKING BREAKS FROM YOUR SUBMERSIBLE,



you walk on beaches covered with seashells such as the conch. These shells are the exterior skeletons of soft-bodied animals called mollusks that grow inside. So make sure nothing is living in there when you pick up the shell!

>> DESTINATION ANTARCTICA

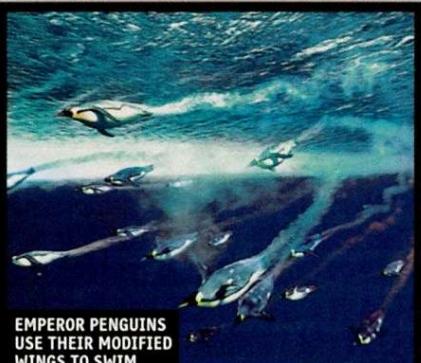
EMPEROR PENGUINS

You peer through the submersible's porthole at four-foot-long shapes shooting by like torpedoes a hundred feet below the Antarctic ice. They're emperor penguins—the largest penguins—and one suddenly darts up through the frigid water. It sees dinner!

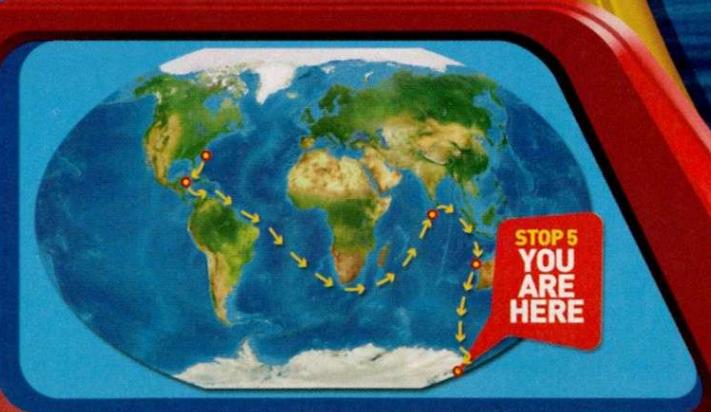
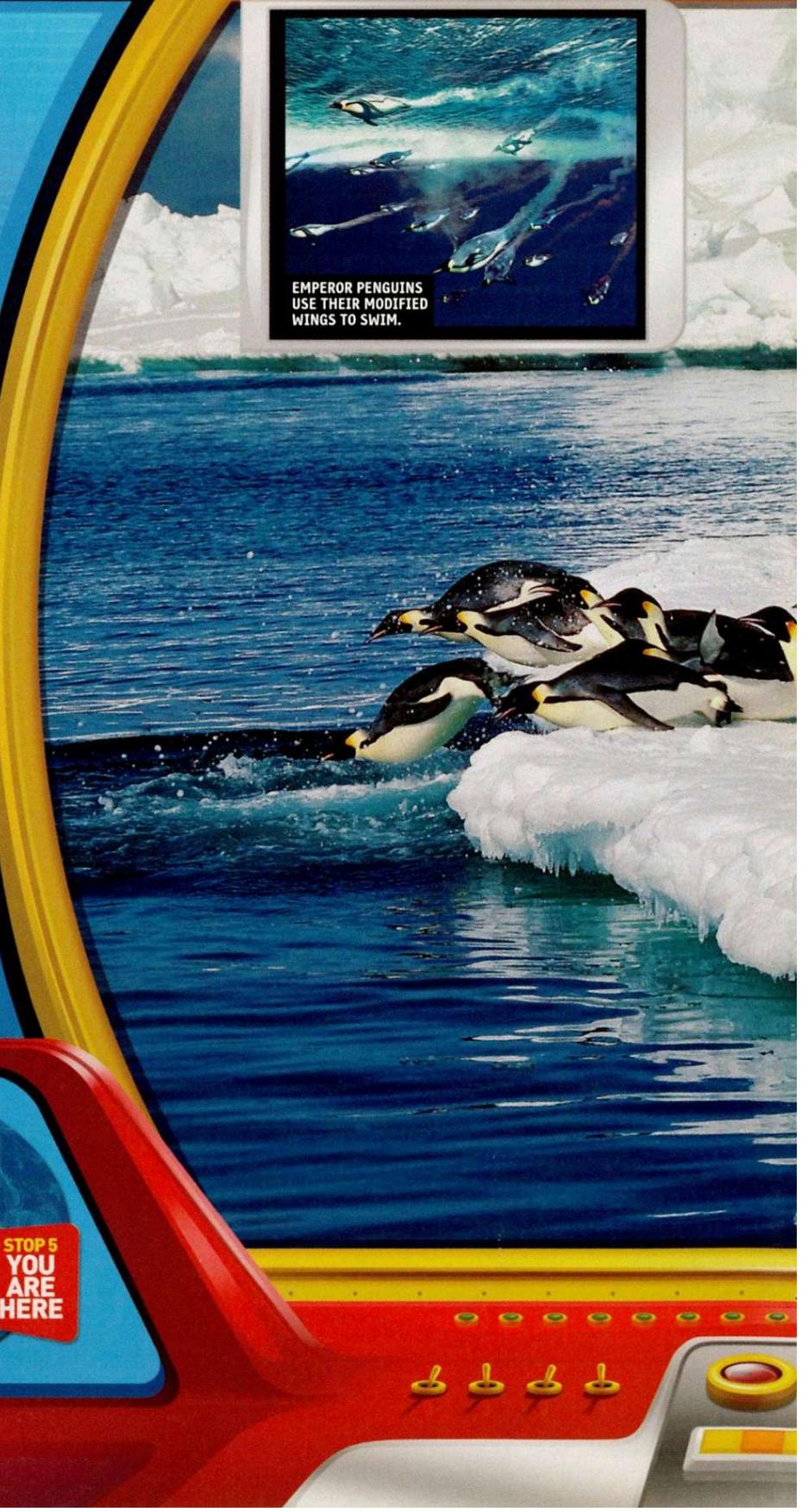
Emperors cruise under the ice peering upward for fish. Once they spy a tasty-looking silhouette, they rocket up and grab the fish. Emperors are the deepest divers of the 17 penguin species. Although most dives are at depths of 600 feet or less, they can dive to nearly 1,000 feet and stay under for more than 20 minutes before surfacing for air.

You're ready to see these birds on land. Without dense penguin feathers to keep you warm when temperatures plummet to -30°F, you pile on six layers of cold-weather gear before heading ashore. The icy rocks come alive with thousands of penguins and their chicks. "Close your eyes and listen," says Barbara Wienecke, seabird ecologist with the Australian Antarctic Division. "Penguins have a lot to say, and each has its own song."

These songs help pairs find each other after a winter apart. The father incubates the egg for two months while the mother travels far from the colony to find food. When she returns, a chorus of squawks and peeps fills the air. "The calls are very melodic and blend together into one extraordinary sound," says Wienecke. Feeling like an intruder among all these penguin family reunions, you leave to cruise on to warmer waters.



EMPEROR PENGUINS USE THEIR MODIFIED WINGS TO SWIM.



MORE ABOUT ANTARCTIC WATERS

YOU CAN SEE A GRACEFUL ALBATROSS NOSE-DIVE

into the water, hunting for lunch. These birds spend most of their time in the air and water and have been known to go months without seeing land.



TEMPERATURES

at the South Pole can dip to minus 100°F—so why isn't the ocean frozen solid? As currents carry cold water away, warmer water replaces it. Plus the sea ice on top of the ocean acts like a blanket, keeping the water temperature above freezing.



YOU'VE NEVER CAUGHT a

spider like *this* in your garage. Found off the Antarctic coast, some sea spiders are bigger than a man's fist. But no worries: They eat coral and tiny tube-like creatures that live on sponges.



THAT ICEBERG

you see peeking out of the water is bigger than it looks. These humongous chunks of ice can be almost a thousand feet tall. But only about ten percent is visible above water.



OCEAN FUN FACT

A SAFE LEVEL of all the world's oceans depends on the Antarctic ice sheet, the ice that covers Antarctica. If it were ever to melt, oceans would rise more than 200 feet.



>> I M

- I'M AT BOTTOM OF WORLD!
- WHAT'S TO SEE THERE?
- EMPERORS!
- REALLY? THOUGHT THEY WERE IN ANCIENT CHINA OR SOMEWHERE.
- HAHA. PENGUINS.
- COOL! HOW R THEY?
- DOING OK. JUST NEED TO STOP GLOBAL WARMING SO THEY KEEP THEIR ICE.

SEA OTTERS

If the coral reef from earlier in the trip were a submerged city, then welcome to this **underwater forest** of kelp. As you pop up to the surface near the coast of North America, you find hundreds of **sea otters bobbing** on their backs around you. Some are **snoozing**. Some are grooming their thick fur. The otters wrap themselves in **kelp** or cling to neighbors to keep from drifting in the fierce current.

This behavior is called **rafting**. Sea otters sometimes gather in groups to socialize, rest, and watch out for each other. "If the otters on the outskirts of the raft become alert, the rest of the group will perk up, too," says biologist Angela Doroff.

The animals have reason to be **wary**. People once hunted sea otters to **near extinction** for their fur, the thickest of any animal. A sea otter has **more hair per square inch** than you do on your entire head. With protection, the otters are slowly **recovering** but still face **threats** that include **climate change** and **predators**. Orcas have become major sea otter predators in some areas. Scientists think **orcas** are finding fewer of their usual prey, seals and sea lions, and are adding otters to their menu.

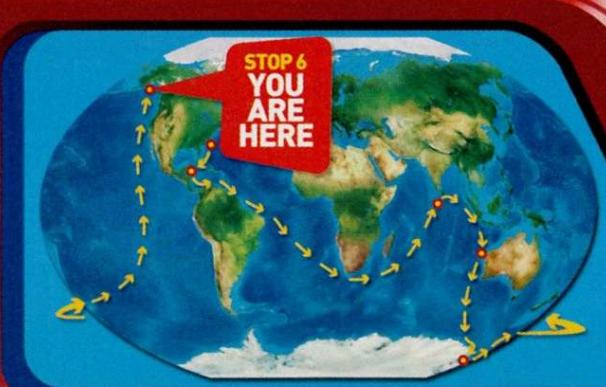
Sea otter **survival** is vital to keeping a **delicate balance** in their sunken-forest habitat. Voracious eaters, sea otters have a taste for **sea urchins**, spiny creatures that would devour the kelp forest if the otters didn't keep them in check. You wish the otters luck as your sub sinks back into the emerald depths of the kelp.

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© BOB CRANSTON / ANIMALS-EARTH SCENES (SEA HORSE) © ANDREW DAWSON / SUPERSTOCK
(MORAY EEL) © BOB CRANSTON / CORBIS (SUBMERSEBLE) © BRANDON COLE (KELP FOREST)



>> I M

- U STILL UNDER ICE 2DAY?
- NO. KELP FOREST W/SEA OTTERS.
- MY GREAT-GRANDMA HAD A SEA OTTER COAT!
- NOT OVERHUNTED BY PEOPLE ANYMORE. BUT ORCAS HUNT THEM MORE NOW.
- YOU ALMOST HOME?
- YEAH. 1 MORE STOP TO SEE WHALES.



MORE ABOUT THE NORTH PACIFIC OCEAN

GOOD THING YOUR SUBMERSIBLE HAS GPS!

The Pacific Ocean is the largest of all the world's oceans. It covers one-third of the Earth's surface. All the surface area of the world's dry land could fit inside the Pacific Ocean's surface area.

A TINY PACIFIC SEAHORSE

comes closer to check you out. Seahorses are unusual animals: Females produce the eggs, then males carry them and hatch them from their pouches.

A MORAY EEL

is peering at you, but you're too big for dinner. These snakelike fish hide in rocks or coral, then snap and grab at prey with two sets of powerful jaws and teeth.

YOUR SUB IS WAY COOL,

but it can't reach the bottom of the Pacific's Mariana Trench, believed to be the deepest spot of any ocean. It's so deep that only one manned submersible (left) has ever reached the bottom, nearly seven miles down.

OCEAN FUN FACT

KELP FORESTS ARE

found in all the world's oceans, but in some places, giant kelp can grow more than 100 feet tall. It can grow up to two feet a day, making it one of the fastest growing plants in the world.

>> DESTINATION ARCTIC OCEAN

BELUGAS

The last thing you expect to hear under floating slabs of Arctic ice is the **chirping** of a songbird. Whistles reverberating through your sub's hull cause you to look through the porthole. It's a **pod** of ghostly gray-and-white **beluga whales** swimming through the icy water. Sailors nicknamed these whales "**sea canaries**" for their birdlike songs. Belugas sing to communicate with other belugas.

Here, just a few hundred miles from the North Pole, even a quick dip in the ice-covered water would be lethal for you. "But belugas are **superbly adapted** to the Arctic environment," says Roderick Hobbs, a scientist with the National Marine Laboratory. "Belugas are associated with ice much of their lives, and may **depend on the ice cover** at times."

Unlike most dolphins and whales, belugas have **flexible necks** that let them crane their **blowholes** into ice cracks for air. They carry a six-inch layer of **blubber** in the coldest months. This fat offers **insulation**, and it streamlines their shape for easy swimming, much like the **high-tech bathing suits** worn by Olympic swimmers. "While human athletes achieve this streamlining through training and technology, belugas have developed it through **evolution and adaptation**," says Hobbs.

As you've seen all along on your underwater safari, pollution and global warming threaten the health of the ocean and all that live in it. **Inspired to help** any way you can, you chart a course for home. Luckily, the belugas are going your way. Each winter they **migrate** south thousands of miles to stay on the fringes of the growing ice pack. You follow along for a while and listen as these sea canaries sing.

>> I M

- WHAT KIND OF WHALES?
- BELUGAS.
- TOP OF WORLD?
- YEAH. GLOBAL WARMING COULD CAUSE SAME KIND OF PROBS AS AT BOTTOM.
- SEE U WHEN U GET HOME. WHOLE SCHOOL'S FOLLOWED UR TRIP. EVERYONE PROMISED TO EAT ONLY OK FISH ETC TO SAVE OCEAN.



STOP 7
YOU ARE HERE



MORE ABOUT THE ARCTIC OCEAN

DARTING THROUGH

the water like a jet plane, a ringed seal chases after its cod dinner. These seals spend most of their time in Arctic waters, occasionally staying under for up to 45 minutes. One survival secret: The seals blow bubbles before surfacing near ice to see if lurking predators such as polar bears will pounce.



IT MAY SEEM BIG

from your submersible, but the Arctic Ocean is Earth's smallest ocean. The surface area of more than 17 Arctic Oceans would fit into the surface area of the massive Pacific.



ARE THOSE

butterflies fluttering around you? Not really. Known as the "sea angel," the *Clione* is a kind of transparent sea slug with a winglike foot to help propel it through frigid Arctic waters.

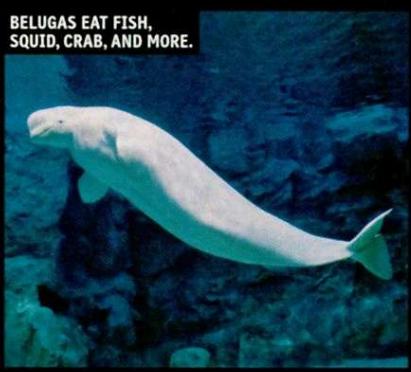


THOSE BIG WALRUSES

sunning on the shore may look slow, but they're surprisingly nimble in the icy Arctic Ocean. They need to be good swimmers to find enough food—walruses can eat 4,000 clams in one sitting.



BELUGAS EAT FISH,
SQUID, CRAB, AND MORE.



OCEAN FUN FACT

IF YOU TOOK ALL
THE SALT from our planet's oceans, loaded it into 30-gallon trash cans, and stacked the cans on top of one another, they would stretch to Pluto and back more than 1,000 times!



FunStuff

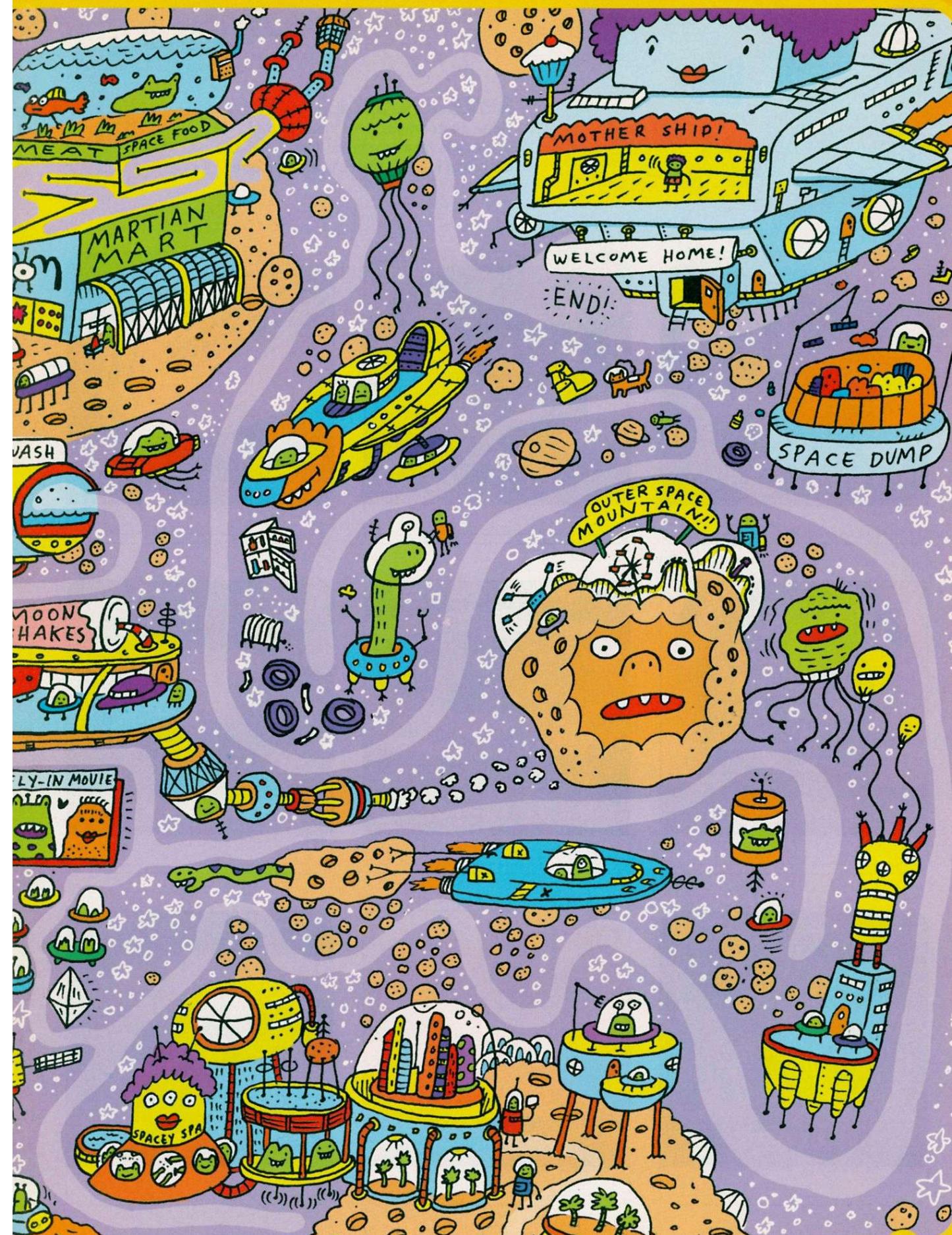
games, laughs, and lots to do!



Galaxy Quest

Help Zorg the alien find
the starry path that leads
back to the mother ship.

ANSWER ON PAGE 31



What in the World?

Play interactive "What in the World?" and other games online.
kids.nationalgeographic.com



AWESOME OVALS

These photographs show views of oval shapes you may recognize. Unscramble the letters to identify what's in each picture.

ANSWERS ON PAGE 31

YLELJ NEBA

ASC'T YEE

IHFS

DWNWOI

GNNNURI ACRKT

WIIKIRTFU

ALOP

OANLLOB

PMLBI

TOP ROW LEFT TO RIGHT: © NICK COOKSON / AGE FOTOSTOCK / JUPITERIMAGES; DAVID CLEETHAM, OXFORD SCIENTIFIC FILMS; MIDDLE ROW LEFT TO RIGHT: © INGRAM PUBLISHING / AGE FOTOSTOCK / PETER AND GEORGIA BONAIUTI / STOCK CONNECTION / JUPITERIMAGES; © SIMPLE STOCK SHOTS; BOTTOM ROW LEFT TO RIGHT: © CHRISTIAN KAPETTA / ALAMY; STEVE GORTON / DORLING KINDERSLEY / GETTY IMAGES; © RICHARD H. COHEN / CORBIS.

Art Zone

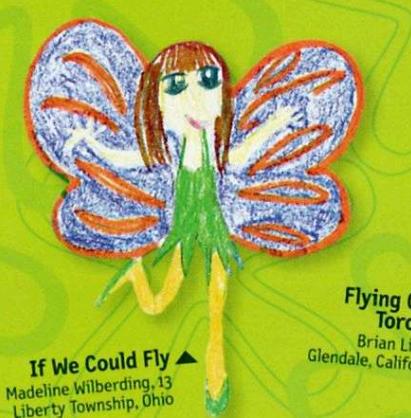
Soarin'
Chloe Enther, 8
Loveland, Colorado

ABOVE THE CLOUDS

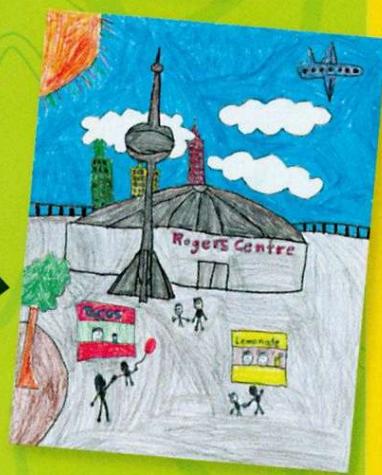
What would the world look like if you could fly? NG KIDS readers let their imaginations take flight in these airborne drawings.



▲ Flying Over Rye
Catherine Turner, 9
Rye, New York



If We Could Fly
Madeline Wilberding, 13
Liberty Township, Ohio



Flying Over
Toronto
Brian Ling, 8
Glendale, California

Answers

balloon, blimp
kite
middle row: window, running track
top row: belly button, cat's eye, fish
"what's in the world?" (page 30):
"Galaxy Quest" (page 28-29):



"Galaxy Quest" (page 28-29):

Draw a cool toy that you would like to invent.

Send your original drawings to
NG KIDS—Toy Art Zone
P.O. Box 98002
Washington, DC 20090-8002

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 of your illustration. Submissions become the property of the National Geographic Society, and all rights thereto are transferred to the National Geographic Society. Submissions cannot be acknowledged or returned. Selection will be at the discretion of NG Kids.



▲ New York in the Sky
Joshua Simcoe, 11
Allentown, Pennsylvania

Back Talk

Give me a high five!



1. Fill in the thought balloon.
2. Cut out the entire picture (or make a photocopy of it).
3. Mail it along with your name, address, phone number, and date of birth to NG KIDS, Back Talk, P.O. Box 96000, WASHINGTON, DC 20090-6000. Selection for publication in a future issue will be at the discretion of NG Kids.

From the December/January Issue

You obviously don't understand the pecking order.

Everett McNair, 12
Schodack Landing, New York

How many times do I have to tell you, this is not *America's Next Top Model*.

Annie Gonring, 12
Whitefish Bay, Wisconsin

Show 'em how the moonwalk's done, Bob.

Elijah Fabian, 9
Los Angeles, California

Hey, Happy Feet, get back in line!

Cassidy O'Neal, 8
Fort Lauderdale, Florida

Nobody told me this was a black-tie event.

Zoey Henderson, 9
Wallsville, Texas

They will never make it past the flying test.

Megan Olsen, 12
Sherwood, Oregon

Did you guys swallow your necks?

Brittany Hart, 11
Lee's Summit, Missouri

Simon didn't say get out of line.

Andrew Marden, 10
Franklin Lakes, New Jersey

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