worldkids

VOL. 5 • NO. 3 • JANUARY/FEBRUARY 2019

HOT PLANT for PAIN

Euphorbia resinifera

Cactus-like plant is 10,000 times hotter than the hottest chili pepper.

When pain is a blessing.



Science SOUP

page 6

123RF

worldkids

VOL. 5 • NO. 3 • JAN/FEB 2019

Science SOUP — 6-9 Hot Medicine for Pain

TIME MACHINE — 10-13 Into the Forgotten Mines

Citizen SHIP — 14-17 Running Away from Venezuela

Take Apart SMART! — 18-21 Big Bird Actor Waves Goodbye

CritterFile — 22-25 Hurricanes Make Hungry Honeybees

JETBALLOON — 26-29 Found: Great Lakes Shipwreck!

SPOTTED!



GREAT BLACK HAWK

Birders with binoculars crowd into Deering Oaks Park in Portland, Maine. A black hawk is visiting . . . all the way from South America! Great black hawks normally live from Mexico to Argentina. How did this one make it to Maine? It's a mystery.

Audubon naturalist Doug Hitchcox stands in the crowd. He says the young bird seems healthy. It's also molting—shedding old feathers to make room for new ones. Maine residents sometimes see rare birds. But Mr. Hictchcox says this is one for the record books.

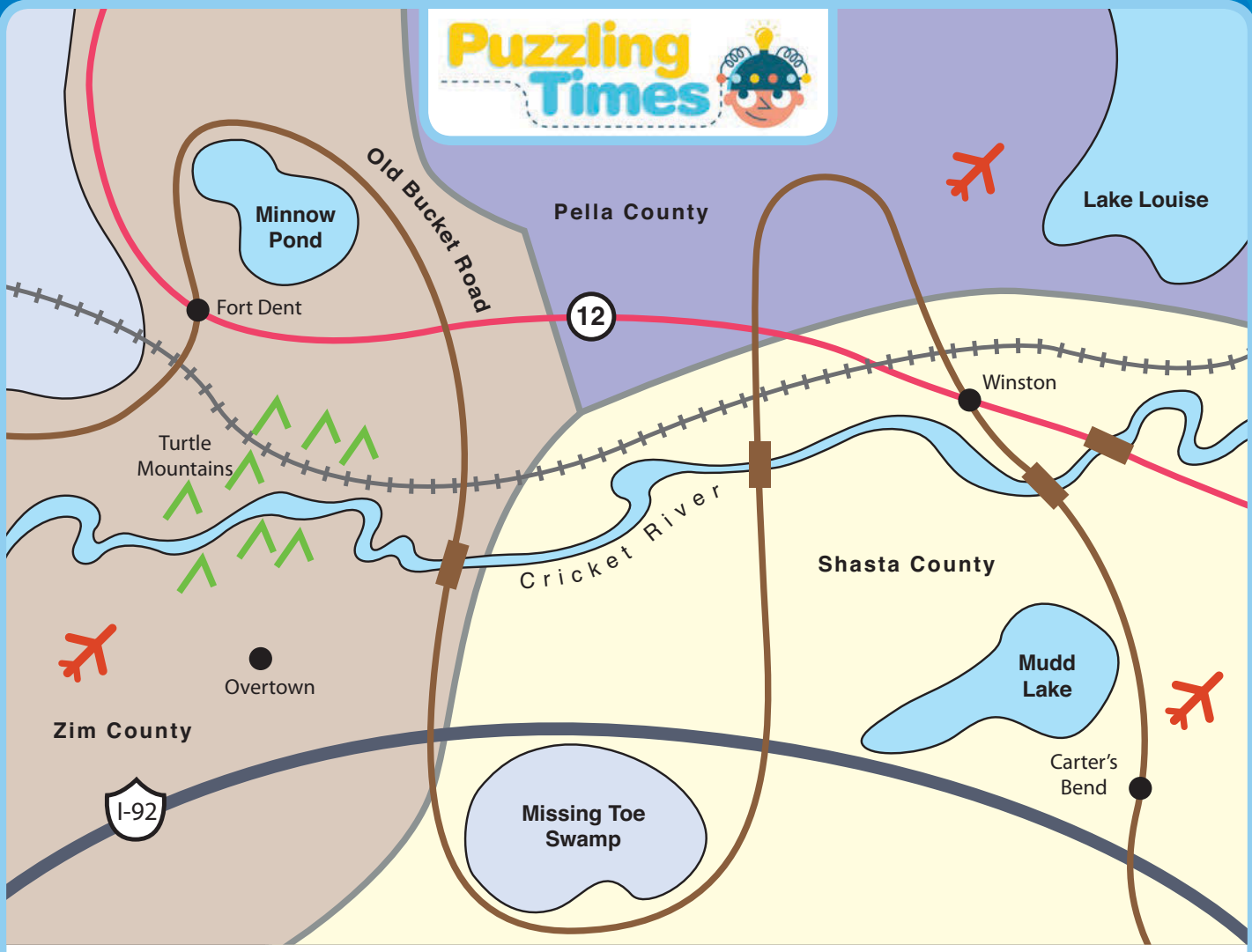
"We've been watching it tear apart a squirrel for the last half hour or so," he says. He warns others: "Don't get too close!" The great black hawk fights with a red hawk (a bird normally found in Maine). It flies over a school. Will one of the kids watching become a bird scientist or conservationist someday?

People saw a great black hawk in Texas earlier this year. It was probably the same hawk—and likely the first time one has ever been seen in the United States.



AP Photos

WORLDkids, Issue 3, January 2019 (ISSN #2372-7357, USPS #700-950) is published 6 times per year—September, November, January, March, May, and July for $35.88 per year, by God's World News, God's World Publications, 12 All Souls Crescent, Asheville, NC 28803. Periodicals postage paid at Asheville, NC, and additional mailing offices. POSTMASTER: Send address changes to WORLDkids, PO Box 20002, Asheville, NC 28802-8201. PUBLISHER: Howard Brinkman, MANAGING EDITOR: Rich Bishop, EDITOR: Chelsea Boes. Member Services: (828) 435-2982, Advertising Sales: (828) 253-8063, advertising@wng.org Mailing address: WORLDkids, PO Box 20002, Asheville, NC 28802-8201. Telephone (828) 253-8063. © 2019 God's World News, God's World Publications.



1 Driving on Highway 12 from Fort Dent to Winston you will go mostly *a) north, b) south, c) east, d) west.*

2 Traveling through the Turtle Mountains you *a) hear the hum of your tires on concrete, b) fall asleep to the sound of steel wheels, c) leave behind a cloud of dust.*

3 A direct flight from the Shasta County Airport to the Zim County Airport will take you over *a) Winston, b) Interstate 92, c) Turtle Mountains, d) Cricket River, e) Mudd Lake.*

4 If you take Old Bucket Road from Fort Dent to Carter's Bend, the only direction you will not drive is *a) north, b) west, c) east, d) south.*

5 Cricket River stretches mostly *a) east-west, b) north-west, c) north-south.*

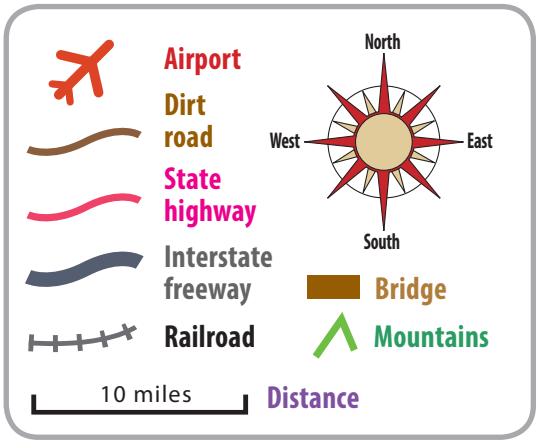
6 The county with the most bridges is *a) Zim, b) Pella, c) Shasta.*

7 About how many miles is it from Winston to Fort Dent on the state highway? *a) 15, b) 40, c) 70*

8 About how many miles is the same trip on a dirt road route? *a) 130, b) 40, c) 240*

9 Early one morning, you are taking the Interstate freeway from Zim County to go fishing at Mudd Lake. Which is true? *a) You will cross Cricket River. b) You are traveling west. c) You must be careful while crossing railroad tracks. d) The sun will likely be in your eyes.*

10 Missing Toe Swamp is which direction from Lake Louise? *a) northwest, b) southeast, c) southwest, d) northeast*



Answers page 5

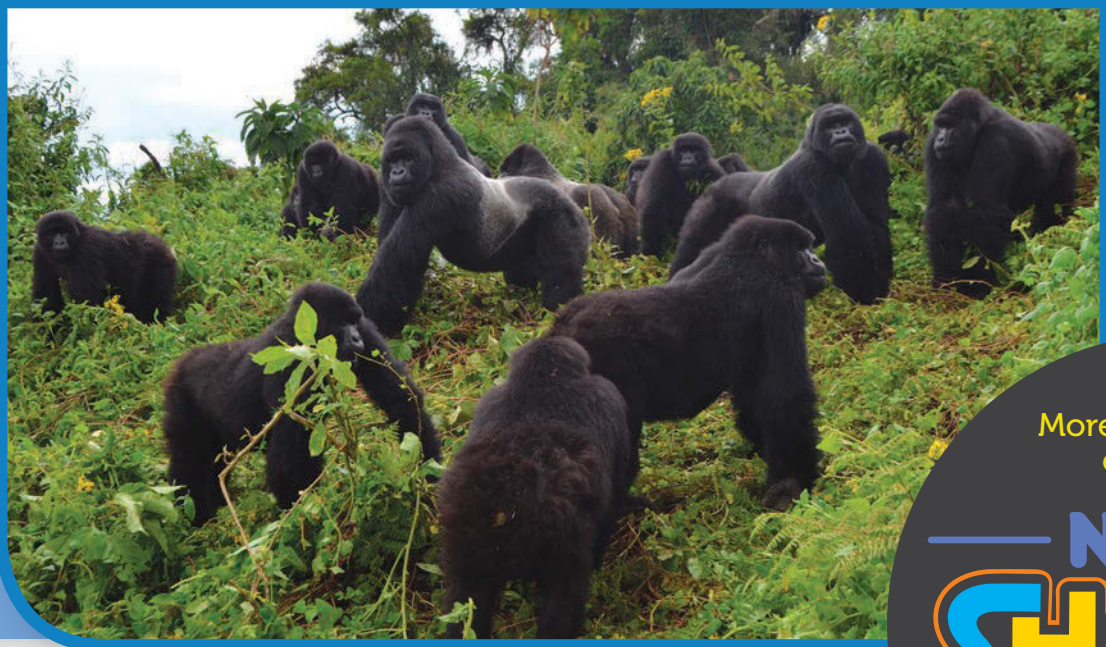
What's hiding in the mist? More gorillas!

Mountain gorillas were once called "critically endangered." But now just over 1,000 live in the wild. That bumps them up the list to just "endangered."

Mountain gorillas live in east African mountains. Temperatures drop below freezing there. God gave the gorillas thick fur to keep warm. But gorilla habitat was destroyed. The animals were forced to higher altitudes where it was too cold even for them.

But now African governments enforce laws: No hunting! No logging! No paved roads! Vets care for injured gorillas. Tourism helps too. Visitors pay up to $1,500 an hour to watch gorillas! That money pours into local tourism businesses. That makes locals want to protect gorillas. The gorilla comeback is a big win—for gorillas *and* people.

Gorilla Comeback



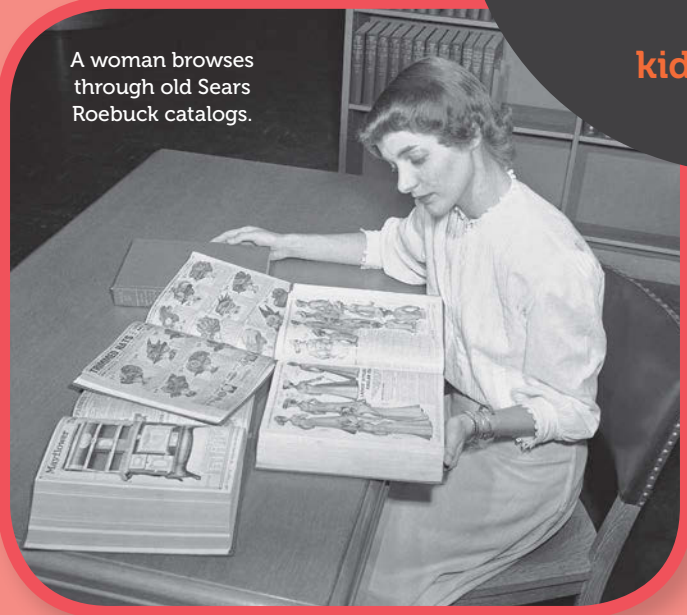
Mountain gorillas in Rwanda's Volcanoes National Park

More sho
every
NE
SHO
kids.w

Goodbye, Sears?

Once upon a time, Americans waited for huge Sears catalogs to come in the mail. Kids leafed through the pages. They circled toys they wanted for Christmas. Grownups hunted the catalogs for cradles, socket wrenches, dresses, guns, girdles, washing machines, and much more. Sears seemed to supply everything people needed from the time they were born to the time they died. That included tombstones! People even mail-ordered house kits in a box. Some Sears houses are still standing. But Sears the company may soon say "goodbye" for good. This fall, the company filed for bankruptcy. It is running out of money.

Sears published its first mail-order catalog in 1888. When it became outdated, a catalog had another use too: as toilet paper in the outhouse! Much later, Sears became a department store in malls. Then more changes came. But now few Americans shop in malls. They have gone back to ordering items from home . . . but not from Sears. Now they buy from the online seller Amazon.



A woman browses through old Sears Roebuck catalogs.

AP Photos

Drip, Drip, Drip . . .



Tourists snap a selfie before the Baishui Glacier.

CRACK!

The noise rings through the fog at a glacier in southern China. Shards of stone fall down the ice, flying past a geologist named Chen Yanjun. "We should go," he says. "The first rule is safety."

Scientists say this glacier is one of the fastest-melting in the world. Glaciers in Asia melt a little every year—and that's good! The seasonal melting flows into major rivers, giving billions of people the water they need to live. But this glacier is not just doing seasonal melting. It is *shrinking* too. The glacier has lost 60 percent of its mass and shrunk 820 feet since 1982.

Some people think this is a big problem. They warn others to think about the future of fresh water and do whatever they can to stop the melting. Others say, "We have kept track of glacier melting for only a short period of time. For all we know, this melting could be normal!"

orts online
y day!
ws
ORTS®
mg.org

Tangerine Trade



A "tangerine express" South Korean C-130 gets ready.

South Korean airplanes carry 200 tons of tangerines to North Korea. If the delivery had a note, it might have said, "Let's be friends. And thanks for the mushrooms!"

In September, North Korea sent two tons of pine mushrooms to South Korea. People in Asia think of brown and white pine mushrooms as a healthy delicacy.

Countries trade goods all the time. But this tangerine-mushroom exchange is a big deal. That's because North and South Korea aren't exactly buddies. Technically, they've been at war since 1950! But little by little, some officials try to make it better. North Korean leader Kim Jong Un also gave South Korean President Moon Jae-in a gift: two Korean hunting dogs.

Puzzle p3, 1 c, 2 b, 3 e, 4 b, 5 a, 6 c, 7 b, 8 a, 9 d, 10 c | Puzzle p32 1) IN + VEST + ARMOR - ARM = INVESTOR, 2) B + SI + SUDS - SIS + TARGET - STAR = BUDGET, 3) CATSUP - CAT + PEARL - EAR + HAY - HA = SUPPLY, 4) D + CAVEMAN + MAJORITY - MAJOR - CAVITY + D = DEMAND, 5) PROVERB - VERB + DUCK + ER + CHIEF - KERCHIEF + T = PRODUCT, 6) W + CONE + SUB - WEB + HAMMER - HAM = CONSUMER | QUIZZES: SCIENCE SOUP, p6-9, Pain, Mars 1. c, 2. d, 3. d, 4. b, 5. Pain tells us there is something wrong with the world—sin. | TIME MACHINE, p10-13, Mines, Antarctic Trek 1) a, 2) c, 3) b, 4) a | CITIZEN SHIP, p14-17, Venezuela, Model City 1) d, 2) b, 3) d, 4) c, 5) Answers will vary, but may include: It's important that we remember every good thing we use to create—our own brains included!—is a gift from God. | TAKE APART SMART, p18-21, Big Bird, Signing 1) c, 2) b, 3) b, 4) a | CRITTER FILE, p22-25, Bees, Horses 1) b, 2) b, 3) d, 4) d, 5) Answers will vary, but may include: Some toads, frogs, raccoons, and black bears experience good consequences from hurricanes. | JET BALLOON, p26-29, Shipwreck, Fish Market 1) a, 2) b, 3) b, 4) c

HOT for PAIN MEDICINE

Euphorbia resinifera, or resin spurge, is native to the mountains of Morocco.



White fluid drips out of a cactus-like plant in the mountains of Morocco. *DON'T* touch it. *DON'T* breathe nearby. In fact, you may want to stand far, far away. This milky plant-stuff is 10,000 times hotter than the Carolina reaper, the hottest pepper in the world! Could something so hot actually be *good* for people? Scientists think so.

The white fluid is called latex. It comes from the plant Euphorbia resinifera. The molecules inside, resiniferatoxin (RTX), are 4.5 *million* times hotter than a wimpy jalapeño pepper. You would think twice before popping a jalapeño into your mouth. Jalapeños are full of a compound called capsaicin. Capsaicin turns on nerves in your mouth that send this message to the brain: "My tongue is on fire!" Your tongue isn't actually on fire, of course—but it sure feels like it is! RTX belongs to the same family of molecules as capsaicin. But it sends a much stronger message. In fact, it kills nerve endings!

"Killing nerves" doesn't sound like a good thing, does it? But it may have a beneficial side. RTX kills only *some* nerves. And doctors find that useful.

Imagine this: A patient with knee pain that never stops gets an RTX injection in the sore joint. Before giving the injection, a doctor puts the patient to sleep with anesthesia. Good thing! RTX will cause lots of pain while it harms the pain-sensing nerves. RTX binds to the nerves that sense pain—*not* the ones that feel light touch or tell the knee to bend. Soon the patient wakes up. The patient can walk. He or she can feel someone touching the knee. But the knee gives no pain.

Morocco's plant could give people a major "ouch!" But it can also give a majorly-relieved "ahhhh…"

THE GIFT of PAIN

Someone hands you a gift with a big label on top. It says, PAIN. Do you want this gift? NO WAY! "I hope you kept the receipt," you say. "Because this baby's going back to the store!"



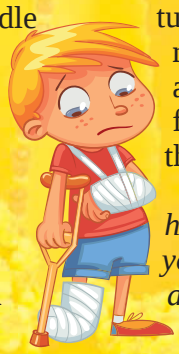
Pain does not seem like a good gift. But the ability to *sense* pain is a blessing. Your body uses pain to talk to you. It tells you, "Stop! Your finger is pinched in the car window!" It says, "Put down that burning hot pan!" It warns you: "Change what you're doing, or your body will be seriously damaged!"

Researchers have tried out RTX as medicine for dogs. *Wired Magazine* says dogs came in limping, got RTX injections, and left able to run. But doctors do not widely use RTX for people yet. It is being thoroughly tested—a *very* good idea when you're thinking about shooting something toxic into a person's body! And if RTX *does* ever become commonly used, doctors won't give it to just anyone. That's because it is not a good idea to take away pain-sensing in most situations. But it could work well for helping patients near the ends of their lives handle pain. It should work for people with bad pain in their joints too.



When people first sinned, terrible pain came into the world. God told Adam, "Cursed is the ground because of you. In pain you shall eat of it all the days of your life." (Genesis 3:17) And God wasn't kidding! Pain is the body's way of telling us something's wrong with us. And pain is God's way of telling us there is something wrong with the world—sin. But God's kindness also leads us to repentance. (Romans 2:4) He sent Jesus to suffer the pain and punishment of sin on our behalf, and He can give us the power to turn away from sin and be in right relationship with Him again. When we see Him face to face, all the pain in the world will be gone.



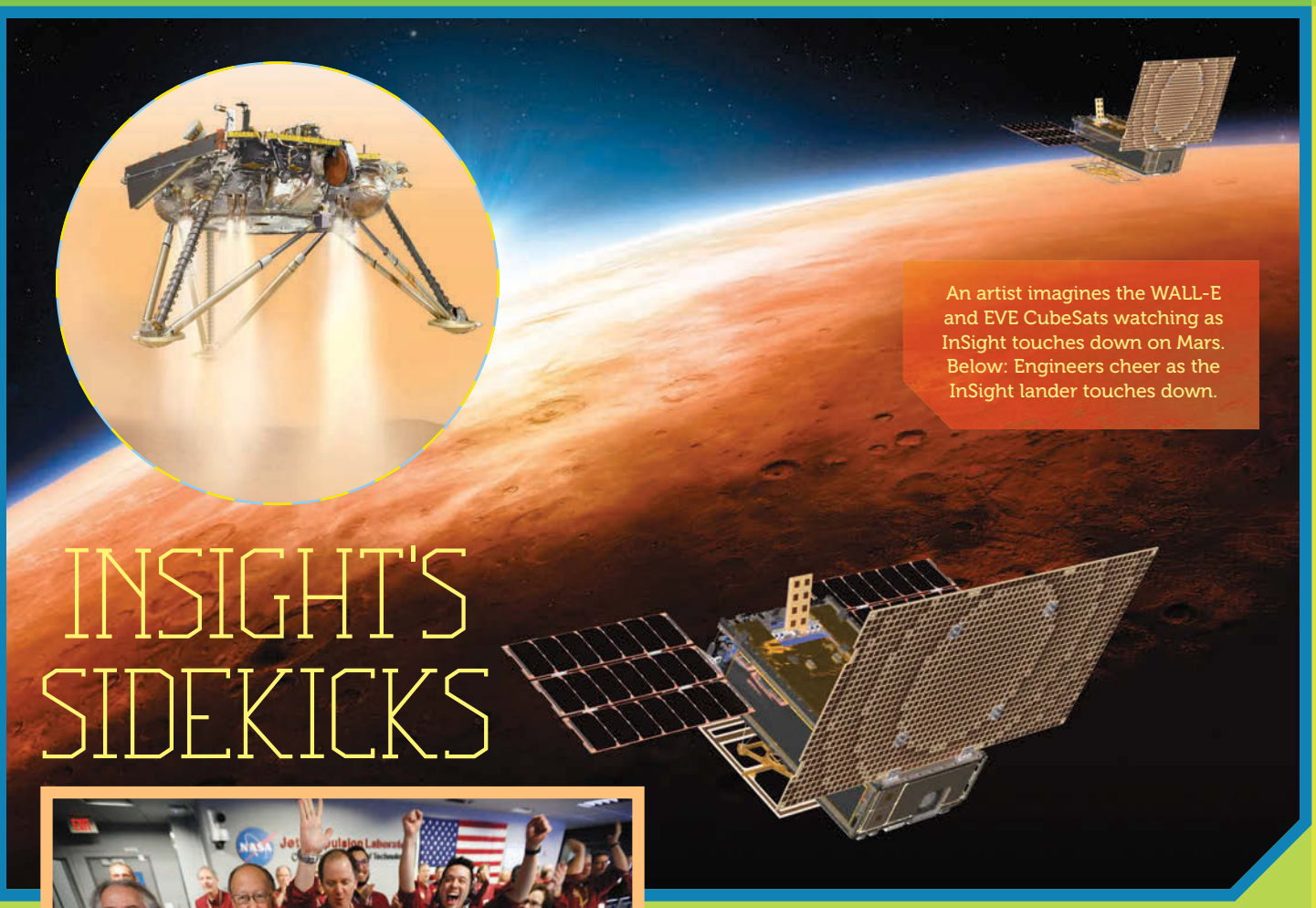


Are you able to sense the harm sin does in your life? If you can, your "sin nerves" are working. You can thank God for that!

What If?

. . . aching joints didn't warn that you have the flu? . . . a rotting tooth never hurt? . . . tummy aches didn't keep you from eating when you are sick? . . . you kept playing soccer because you couldn't tell you had fractured a bone or sprained an ankle?

123RF



An artist imagines the WALL-E and EVE CubeSats watching as InSight touches down on Mars. Below: Engineers cheer as the InSight lander touches down.

INSIGHT'S SIDEKICKS



WALL-E and EVE fly through space. The twin satellites follow NASA's InSight spacecraft 300 million miles—all the way to Mars!

WALL-E and EVE are CubeSats. CubeSats are small satellites sent to space to send back information. WALL-E and EVE are each the size of a briefcase. They hitch a ride on the same rocket that launched InSight in May, 2018 on its nearly seven-month flight to Mars. CubeSats always share rockets. They're too small and inexpensive to need their own launch.

InSight is made to land and work on Mars. But the mini satellites fly past the planet. Their job is to send information about InSight's landing back to Earth as quickly as possible. They follow 6,000 miles behind InSight. Scientists at NASA keep them apart so the satellites will not collide with the spacecraft. WALL-E and EVE are also 6,000 miles apart from each other.

Do you recognize the satellites' names? They come from the 2008 animated film *WALL-E*. In the film, WALL-E uses a fire extinguisher to propel through space. In reality, the CubeSats steer through space the same way compressed gas shoots out of a fire extinguisher. Although WALL-E the CubeSat leaks fuel most of the way, flight controllers work around the problem. Meanwhile, EVE flies beautifully the whole time.

In November, scientists wait and watch as InSight prepares to land. Will WALL-E and EVE stay quiet? Or will they let scientists know what is happening? It should take less than a minute for InSight to send a signal to the CubeSats. It will take eight minutes and seven seconds more for a radio signal from the mini satellites to get from Mars to Earth… *if* the CubeSats cooperate.

InSight plunges through the red skies of Mars. Scientists on Earth hold their breath. A flight controller calls out, "Touchdown confirmed!" The scientists start to cheer. They leap out of their chairs. They dance and hug. InSight has survived the landing! WALL-E and EVE have sent back the good news, along with InSight's first snapshot of Mars.

WHAT WILL INSIGHT DO?

InSight is the first American spacecraft to land on Mars since the Curiosity rover in 2012. Unlike Curiosity, InSight won't move around and explore the surface. It will stay put and perfectly still. InSight has three legs, one arm, and a unique job: exploring underground. After landing, InSight takes out the science experiments it carries. It places them on the surface of Mars. One experiment will attempt to drill 16 feet into Mars and monitor the temperature underground to see how much heat is still flowing out of Mars. InSight also carries seismometers to measure marsquakes—if they exist. Listening to quakes helps scientists understand the planet's interior. Another experiment will measure how much Mars wobbles, which helps reveal the structure and size of the planet's metallic core. InSight is a robot that does all its work by itself.

On the surface of Mars, InSight uses its robotic arm-mounted camera to take a picture of the Red Planet.

NASA scientist Bruce Banerdt says InSight has its own "brain." It has its own arm to move objects around. It can "listen" with its seismometer. It can "feel" with its temperature sensors. It pulls power from the Sun. The 800-pound InSight craft will take measurements for the next two Earth years—but that's just one Mars year!

Mars: You Are NOT Welcome!

Scientists watched and worried as they waited for InSight to land. Wind gusts could have sent InSight into a tumble while it came down. The parachute could have gotten tangled. A dust storm could have blocked the Sun, keeping InSight from getting solar power. A leg could have buckled. The arm could have jammed.

Mars does NOT seem to like having visitors! Starting way back in 1960, people from different countries have sent spacecraft to try and fly past or orbit the planet. But of nearly 50 total missions to Mars so far, only about 40 percent of them have succeeded. Only a few of those missions have included the much more complicated task of trying to land on the surface. The United States has successfully landed on Mars eight out of nine attempts—an unusually good record. No wonder the scientists cheer when InSight lands safely!

Science SOUP

SCIENCE SOUP Quiz

1. RTX is __.
- ☐ a) the main ingredient in jalapeños
- ☐ b) part of what makes fire hot
- ☐ c) the main ingredient in Euphorbia resinifera
- ☐ d) a kind of anesthesia

2. RTX could be useful for __.
- ☐ a) people near the end of their lives
- ☐ b) people with bad joint pain
- ☐ c) dogs
- ☐ d) all of the above

3. WALL-E and EVE are __.
- ☐ a) digging experiments
- ☐ b) satellites
- ☐ c) characters from a movie
- ☐ d) b and c

4. How long do scientists plan for InSight to work on Mars?
- ☐ a) decades
- ☐ b) two years
- ☐ c) 80 years
- ☐ d) six months

5. Pain is the body's way of telling us something is wrong. What does pain tell us about God's world?

Answers page 5

AP Photos



Jeremy MacLee explores a mine.

Into the Mines

Switch on your head lamp. You're about to enter a world underground!

Jeremy MacLee is a spelunker, or cave explorer. He checks old documents to find forgotten mines in Utah. He steps onto abandoned paths. He is the first person to walk on them in 100 years!

Mr. MacLee and a group of friends meet in front of a cave opening near Eureka, Utah. They wear helmets, oxygen meters, and strong lights—and they don't forget a stash of extra batteries. Cool air blasts from the cave opening, cutting through the desert heat. Inside the cave, they walk between metal tracks that once carried carts used in mining. They move through a tunnel. After nearly a mile, the metal tracks suddenly stop. The group stands at an **abyss**. The tunnel opens wide into a huge cavern.

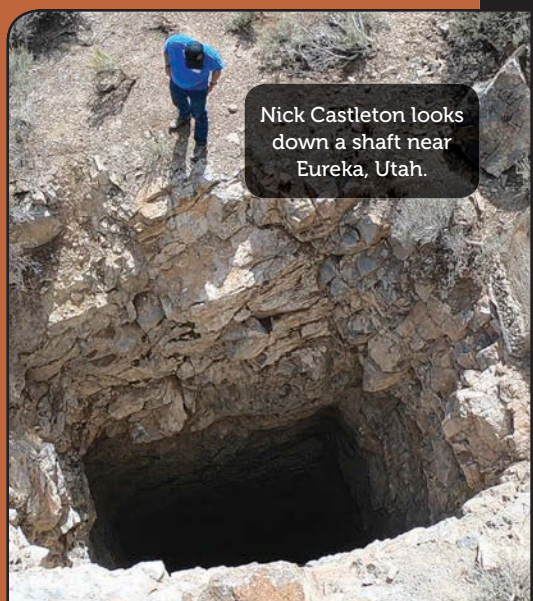
Rewind. A hundred years ago, the cave was a bustling scene lit with candles and gas lamps. Miners climbed scaffolding as tall as a seven-story building. The cave was filled with the sounds of workers digging out lead and silver.

But today it is pitch-black and silent. The spelunkers' searching headlight beams add the only light.

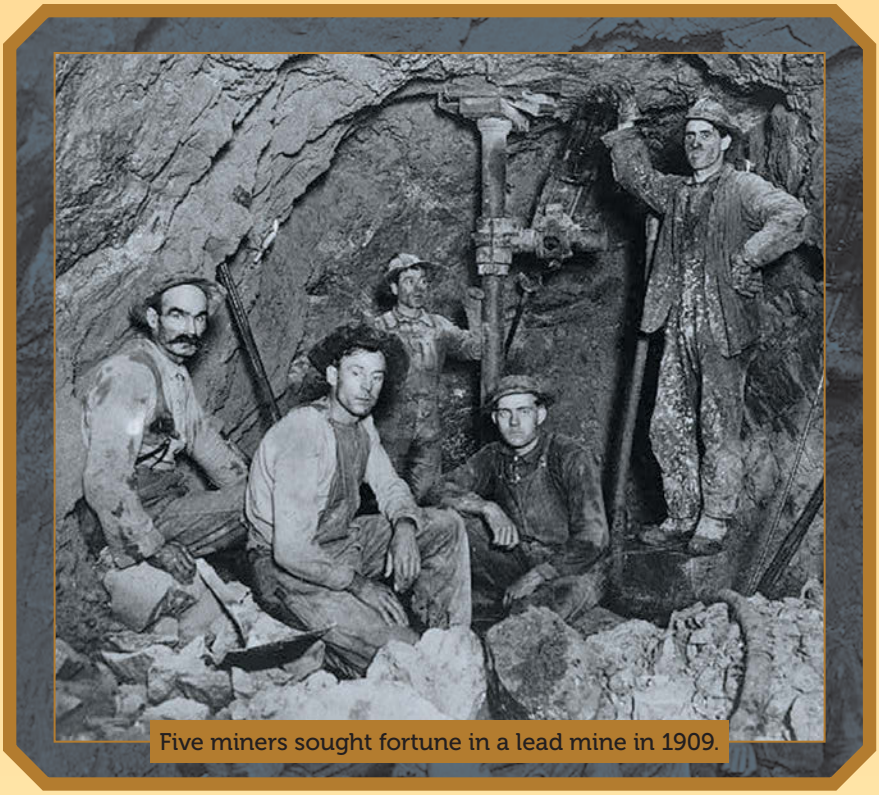
Thousands of abandoned mines like this one hide buried in the American West under mountains and deserts. Spelunkers slip underground. They find tunnels lined with sparkling quartz stone, caverns like buried ballrooms, and relics such as old rail cars. The spelunkers can only say, "WOW!"

But Utah officials have something else to say: "WHOA!" And they mean "whoa" as in, "hold your horses!" Spelunking in abandoned mines is dangerous. Eleven people have died in the caves since 1982. More than 40 have been injured. Some were exploring. Others just fell into the hidden holes. Some mines are filled with toxic water that can harm people. Abandoned explosives can go off. Low-oxygen air (called "black damp" by miners) can harm spelunkers without the right equipment. And don't forget snakes, spiders, bats, mountain lions, and bobcats!

The world of hidden mines is still the Wild West. If people disobey a sign warning them not to enter a mine, they are breaking the law. But people are rarely punished for such trespassing. And spelunkers have an argument of their own. "Spelunking can be risky," they say. "But it's no more dangerous than hiking or skiing!"



Nick Castleton looks down a shaft near Eureka, Utah.



Five miners sought fortune in a lead mine in 1909.

MINES BACK THEN

Curious spelunkers wonder: *Who* dug all these holes? And why did they leave them behind?

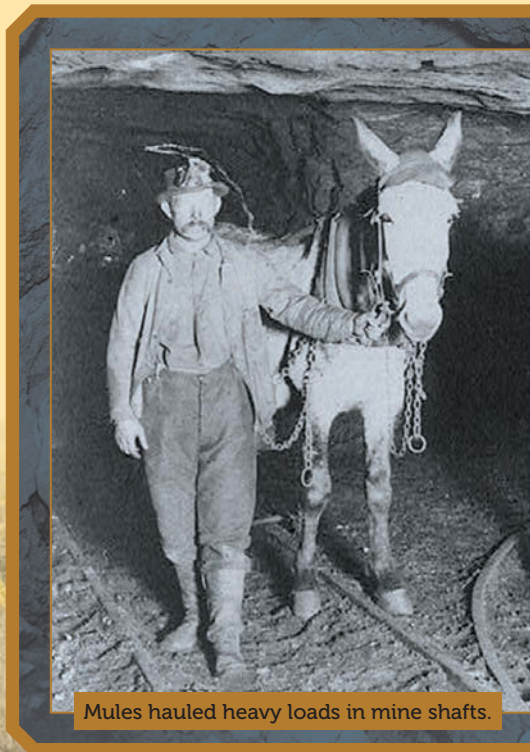
The first settlers in Utah were busy growing food and building shelters so they could survive. But a few decades after arriving, they made a discovery: They had built their new homes on top of treasure! With a little black powder to blow a mine open and a shovel to dig out silver, zinc, copper, gold, lead, and iron, a person could make a fortune!

Or he could lose everything he had. Mines were **treacherous** places even back then. Mine workers came from all over the world hoping to get rich. They burrowed their way to the middles of mountains. They made little money, breathed toxic air, and were in constant danger from fires, cave-ins, and dynamite accidents. They worked in almost complete darkness every day. Mining mules grew used to the dim light underground. They had to be blindfolded when they were brought outside!

And what happened when a mine ran out of treasure? People just walked away, leaving the cavern behind.

Today's government officials would not let people dig gigantic mines then leave them untended in the ground. When God gave Israelites laws for how to live, He included ones about watching out for the safety of others. God said, "When you build a new house, you shall make a parapet for your roof." (Deuteronomy 22:8) A parapet is a wall that keeps a person from falling over an edge. God was telling His people to think ahead and protect their neighbors from danger.

Falling down a mineshaft can be as dangerous as falling off a tall building. And old mine entrances are often unsteady. They could cave in at any moment. Officials hire workers to cover up mine entrances with cinderblock walls and metal grates. They are trying to seal more than 10,000 open mines—and that's just in Utah! Abandoned mines fascinate us. It's good to have freedom to explore them. But each explorer should know and prepare for the risks.



Mules hauled heavy loads in mine shafts.



Rail cars and tools were abandoned when miners moved on.

AP Photos

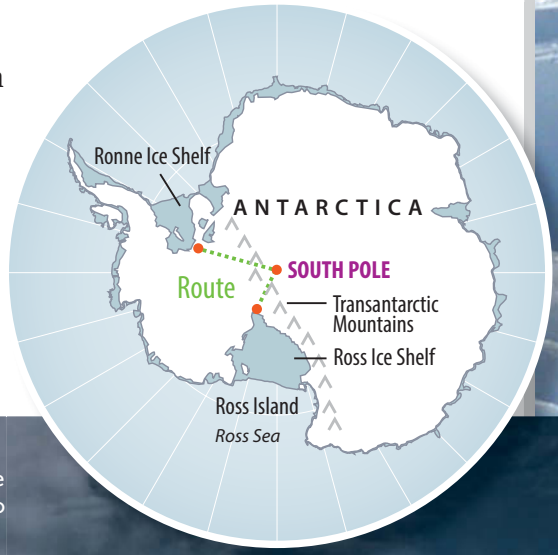
Alone into the White

Louis Rudd may soon become the first person to cross Antarctica by himself—with no transportation but his own two feet! Is that even possible? Mr. Rudd admits: just barely!

Mr. Rudd started his journey on November 3. Over 900 miles of ice and snow lay before him. He drags a seven-and-a-half-foot sled. The sled is attached to his waist. It holds 330 pounds of food and supplies. His journey should take about 75 days. He'll fight constipation, dehydration, exhaustion, frostbite, snow blindness, and sunburn. He will travel in temperatures of negative 58 degrees and 100 mile per hour winds. It sounds like a job for a soldier—which is exactly what Mr. Rudd is. He trained to fight in the Arctic in the British Army. Last year, he led an Army team across Antarctica, "The Great White Continent." But he has never tried it alone until now.

The load will get lighter as he goes. He will eat through the protein bars, nuts, and salami he's pulling. But he has only an iPod for company. The **isolation** will probably become harder and harder to bear. An American named Colin O'Brady is trying the same thing. The men began at the same time within a mile and a half of each other. So they are together . . . yet utterly alone.

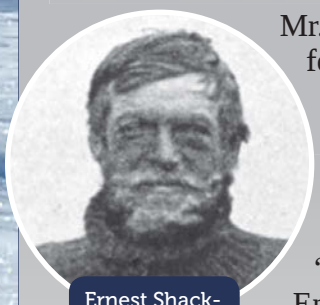
Mr. Rudd's wife, Lucy, and children Luke, Amy, and Sophie watch the journey from their home in England. They gave him "super-light" presents to open on Christmas. Mr. Rudd plans to finish the journey on or near January 27. He prepared for this journey for nearly 10 years. Before setting out, he declared, "I absolutely love the sheer vastness of Antarctica." But you have to wonder: Will he still feel that way once he's done?



A screen from https://shackletonlondon.com/pages/expedition, where the adventurer's sponsor invites people to follow Louis Rudd's progress online



In Mr. Shackleton's Snow Prints



Ernest Shackleton

Mr. Rudd is following in some huge polar footsteps. He named his expedition "Spirit of Endurance." The Endurance was the ship used by the famous British explorer Ernest Shackleton. Mr. Shackleton tried to cross Antarctica between 1914 and 1917. But ice trapped the Endurance. Mr. Shackleton and his men were stuck! Mr. Shackleton knew his crew would have to spend the winter on the ice. The men moved the dogs off the ship into igloos on the ice. To keep up their spirits, the 28 crew members exercised on the ice and played games aboard the ship. They waited for months. But they couldn't wait forever. Their ship was being crushed by the ice.

Finally, the men squeezed into lifeboats. They sailed to ice-covered Elephant Island. They survived by eating seals, penguins, and even their own dogs. Mr. Shackleton showed incredible leadership and bravery. He and five men sailed 800 miles in an open boat to save the entire crew. The dangerous journey took 16 days. Finally, he arrived in South Georgia, an island territory in the Atlantic Ocean used by whaling ships. At last, he had found others who could help!

It took four trips and four months for Mr. Shackleton to rescue his crew members. In the end, not a single crew member died.

But Mr. Shackleton did not do what he set out to do: cross Antarctica. Mr. Rudd wants to complete Mr. Shackleton's unfinished business. Is it scary? Absolutely!

But Mr. Rudd feels encouraged. He says, "There will be so many people out there supporting me, willing me on and watching my progress—they will be with me all the way."

Christians take comfort knowing that no matter their location or trials, Jesus will never leave them or ***forsake*** *them. (Hebrews 13:5)*



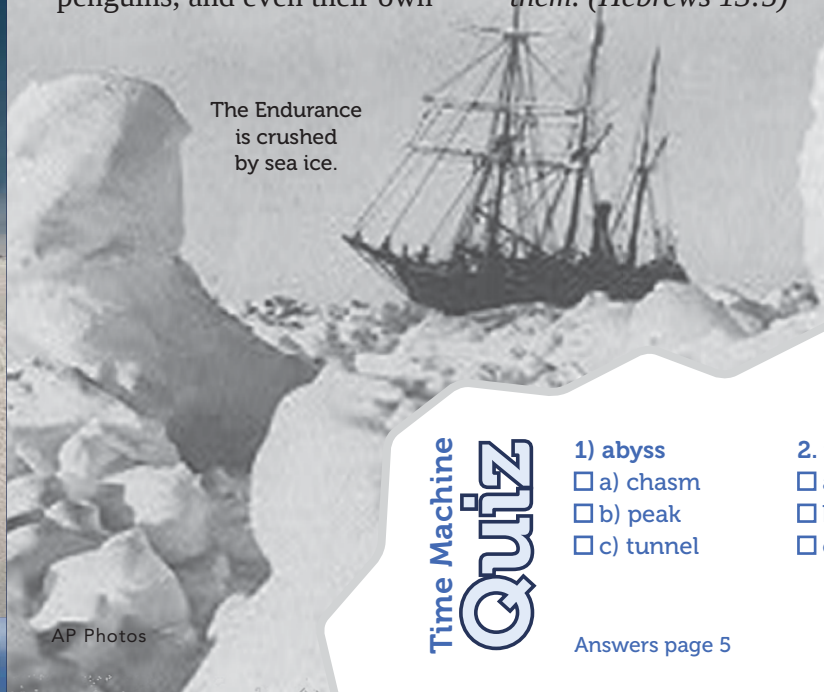
The crew survives being stranded on icebergs and a small island.



Stranded men launch an open boat into icy waters off Elephant Island in 1916.



Stranded crew members wave goodbye to Shackleton and sailors as they sail away for help.



The Endurance is crushed by sea ice.

AP Photos

Time Machine Quiz

1) abyss
- ☐ a) chasm
- ☐ b) peak
- ☐ c) tunnel

2. treacherous
- ☐ a) crafty
- ☐ b) massive
- ☐ c) dangerous

3. isolation
- ☐ a) exhaustion
- ☐ b) loneliness
- ☐ c) cold

4. forsake
- ☐ a) leave
- ☐ b) join
- ☐ c) forget

Answers page 5

FLEEING VENEZUELA



Sandra Cadiz holds the hand of her 10-year-old daughter Angelis as they walk through Colombia on their journey to Peru.

Night gets closer. Sandra Cadiz wraps her shivering 10-year-old daughter in a blanket. She prays for a ride up the freezing Colombian mountaintop known as "the icebox."

The two are running away from Venezuela on foot. They must travel 2,700 miles through four countries. More than 650 people leave Venezuela on foot this way every single day! Bus or plane tickets cost too much.

Ms. Cadiz knows not everyone survives the dangerous journey. But she is afraid to stay in Venezuela, where her daughter Angelis does not get enough to eat. Ms. Cadiz and Angelis sleep on the ground outside a gas station. They are just two people involved in one of the biggest migrations in the world today. More than 1.9 million people have fled poverty, hunger, and crime in Venezuela since 2015.

Ms. Cadiz and Angelis set out for the Colombian border. They sleep in the Colombian highlands, where temperatures dip 10 degrees below freezing during the night. Ms. Cadiz is terrified they will get stranded and die in the cold. But the next morning, they get up again and walk more, even though Angelis is wearing broken shoes. A stranger named Alba Camacho spots them. She wraps Angelis in her own thick blue coat. She takes the pair to her friend's home for the night. In the morning, they start walking again. Sometimes they hitch rides. But they never get anywhere fast. By the next night, they are barely a quarter of the way from Venezuela to Peru! They spend the night on the floor beneath a mechanic's tin roof. They weep.

The next day, Ms. Cadiz decides to try something else. Generous Colombians have given her 250,000 pesos—about $82. She buys two tickets to neighboring Ecuador. In Ecuador, the two take a free bus to Peru. After their eight day journey, they are hungry and sick.

Ms. Cadiz pulls her documents out of a crinkled Hello Kitty folder one last time. A migrant agent asks Angelis to step in front of a camera for a picture. Angelis grins from ear to ear. They have finally arrived!

By the time the two reach the Peruvian capital, they don't have a cent in their pockets. Ms. Cadiz says, "I arrived by a miracle."

Citizen SHIP
kids.wng.org/citizen-ship

AP Photos









1) Angelis lies awake as she and her mother spend a night on the floor of a gas station in Colombia. 2) The travelers are thankful whenever they can catch a ride. 3) Sandra Cadiz and Angelis wait more than four hours to cross into Ecuador. 4) The two arrive in Peru and pose for a picture.

WHAT WENT WRONG?

In Venezuela, waves crash on lovely Caribbean beaches. Snow caps mountains. Water rushes down Angel Falls, the tallest waterfall in the world. One of Earth's longest rivers, the Orinoco, brings life to soil and animals as it flows through the land. Deep underground, wealth-bringing oil waits for drilling. When God made Venezuela, He made a stunning place! Why would Ms. Cadiz, Angelis, and almost two million others take such a dangerous journey to leave it?

It's because life in Venezuela is very difficult, and has been for a long time. In 1999, a ruler named Hugo Chavez came to power there. His socialist government used wealth from oil to pay for social programs. The programs decreased the prices of goods so more people could buy them. For a while, that worked. More people had clean drinking water. More children could go to school. But then the price of oil dropped. Venezuela used to sell it for $100 a barrel. Soon it sold for only $30 a barrel! The government could not pay for its programs anymore.

But officials still slashed prices on many products. Soon it cost less to buy a bag of corn flour than it cost to make one. Farmers did the math. They thought: *Why grow corn? We will not get paid enough to make it worthwhile!* The same thing happened with other products too. Many companies and businesses failed. People stopped creating new wealth. Venezuelan money bought less and less. Soon, even basic goods were scarce and the prices increased. They became too expensive for people to buy.

The Bible says that "when the wicked rule, the people groan." (Proverbs 29:2) Venezuelans are tired of groaning—so they are running away from the beautiful country they call home. What is it like to live in Venezuela now? You can't buy toilet paper or milk. Diseases spread but you cannot get medicine. Violent crime gets worse and worse as people become more desperate. People have tried to get rid of leaders who manage God-given resources so badly. But the rulers say, "We are in charge. We will do what we want!"

Will the trouble keep going? Right now, there is no end in sight.

Bringing a Railroad Town to Life

It looks like you could walk right into this town. But if you tried, you might crush it! The town is a tiny model. Todd Gieg is building it by hand. His version looks just like the town did in 1895!

Soon after Mr. Gieg moved to Lynn, Massachusetts, he bought a basic model railroad kit for his son. He also started reading about the history of his new town. Here's what he learned: A narrow-gauge railroad once carried freight and passengers through Lynn.

A narrow-gauge railroad has narrower tracks than the ones ordinary trains run on. These narrow tracks were used in areas where money was scarce and few riders were likely to climb aboard—spots such as the Maine woods, the Rocky Mountains, and the Swiss Alps. But the railroad in Lynn was an exception. The railroad carried over seven million passengers a year!



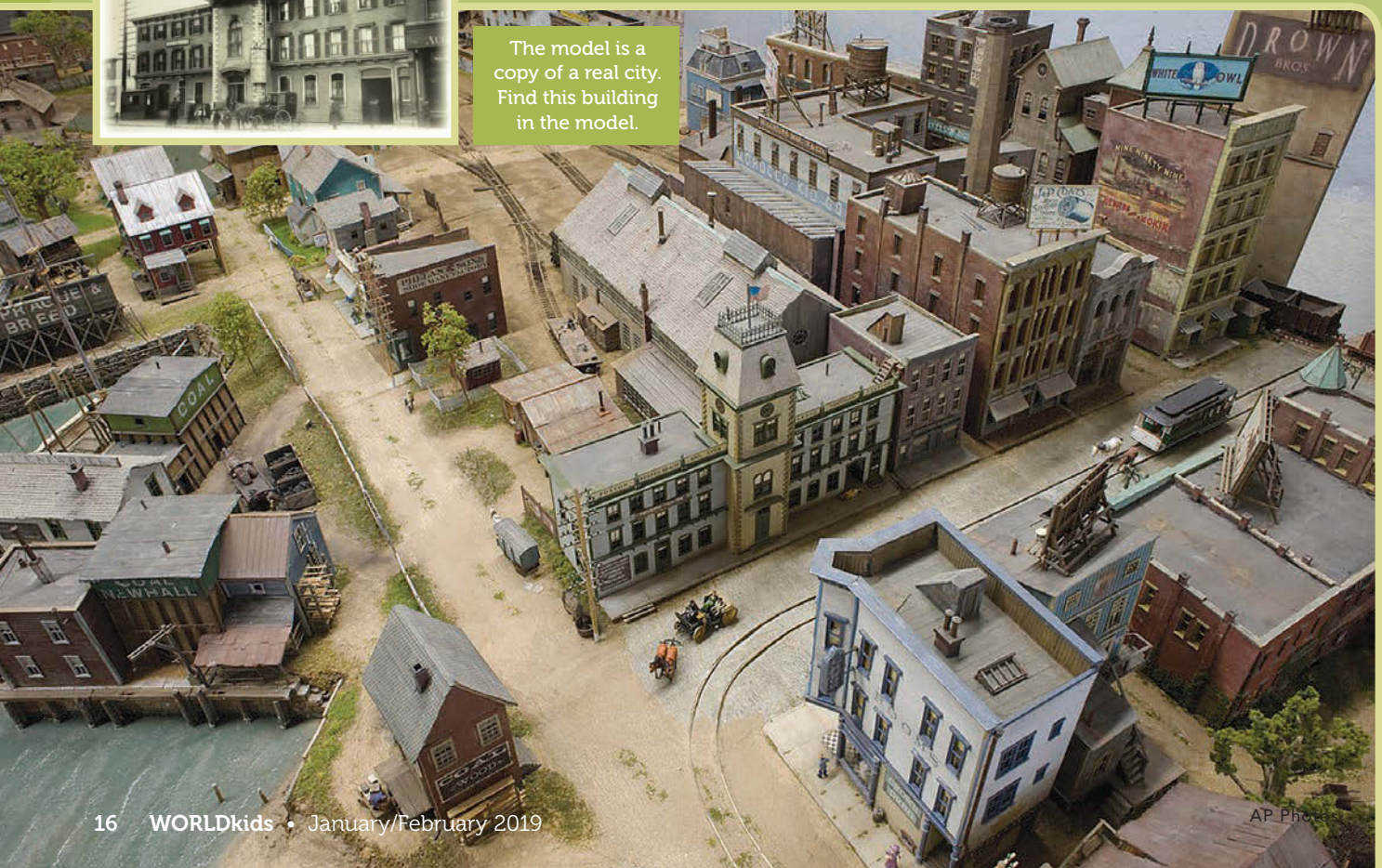
Ready for a swim off a dock in a realistic model of Lynn, Massachusetts

Riders were often traveling from Boston to the North Shore to spend time at the seaside.

Mr. Gieg started by building a simple model railroad. But soon he was constructing a scale diorama, or model. He didn't







The model is a copy of a real city. Find this building in the model.

AP Photos





Todd Gieg at work on details



want to build an imaginary railroad. He wanted to copy the one that had really existed in his city. He calls it "Boston's forgotten railroad."

He explores the railroad's history down to the tiniest detail. He is recreating about 10 miles of train track and every town along it in miniature. He makes pretend ivy crawling up buildings and tufts of grass sprouting under porches. His tiny storefronts, houses, and factories look just like ones that might have existed in 1895.

Mr. Gieg's plans include 10 four-by-four-foot modules. To scale, that covers the entire distance from Boston to Lynn.

Does looking at Mr. Gieg's detailed work make you want to grab some wood and glue and start a model of your own? He hopes he will inspire kids to work with their hands too.



Old photos of a narrow-gauge locomotive came in handy.

Creating after the Creator

Think about how God created the world. He spoke. The Sun and Moon and animals and seas just *appeared*. Todd Gieg is creating a small "world" of his own. But he can't speak it into existence. He must work hard for a very long time. He thinks his project will take several more years to finish!

"I have been successful at this because it is pleasurable," Mr. Gieg says. God took pleasure in His creation too. He called it "very good." (Genesis 1:31) It is right and good to use God-given creativity and intelligence to build, teach, and delight. But it's important that we remember every good thing we use to create—our own brains included!—is a gift from God.

Mr. Gieg studies old maps, books, and photographs. He interviews folks who rode the railroad as children. Many of the model's structures, ships, and trains are assembled from kits. But Mr. Gieg "scratch built" almost a third of the buildings. For those, he used only research and makeshift materials. Mr. Gieg mixes paints. He carves fence posts. He strings wires. He constructs warehouses. Mr. Gieg experiments with coloring and texture until he makes real-looking "water." Jars hold grainy mixtures for "fine turf green" and "coarse turf." He uses these to create grass.

Over several years, Mr. Gieg has made more than 50 models for his project. He builds small boats, coal barges, and rows of buildings lining Market Street. Imagine making each board, tree, fence post, brick, and rail of a 40-foot model by hand! Then think of what a tiny part of the world Mr. Gieg is copying! He is also creating from just one time period—just a sliver in the long stretch of history since God created the world. And he is not creating from nothing like God did. God the Creator planned the details of every cell in the universe and spoke them into being—not a single book, website, map, or photo required!

Todd Gieg, AP Photos

Citizen Ship Quiz

1. People leave Venezuela to escape __.
- a) poverty
- b) hunger
- c) crime
- d) all of the above

2. Who was Hugo Chavez?
- a) the king of Ecuador
- b) the president of Venezuela
- c) a money manager in Peru
- d) a border guard in Colombia

3. What is Todd Gieg building?
- a) a working railroad
- b) a seaside resort
- c) a new town
- d) a model railroad and town

4. What does Mr. Gieg NOT use while building?
- a) interviews with people who rode the rail
- b) old maps, books, and photographs
- c) real grass
- d) assembled kits

Answers page 5

5. God took pleasure in creating the world. We take pleasure in being creative too! What's important to remember while we use our creativity?

TAKING OFF BIG BIRD

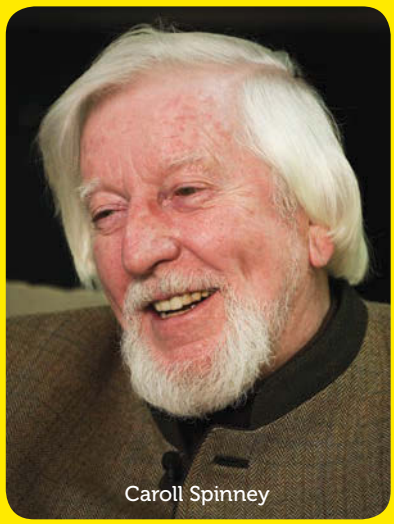
Do you recognize Caroll Spinney? You would if he was wearing his costume. He has spent the last 49 years playing around—as a puppeteer. He is the voice and body of Big Bird!

Or, he *was*. Mr. Spinney has decided it is time to retire from *Sesame Street*. He is now 84 years old.

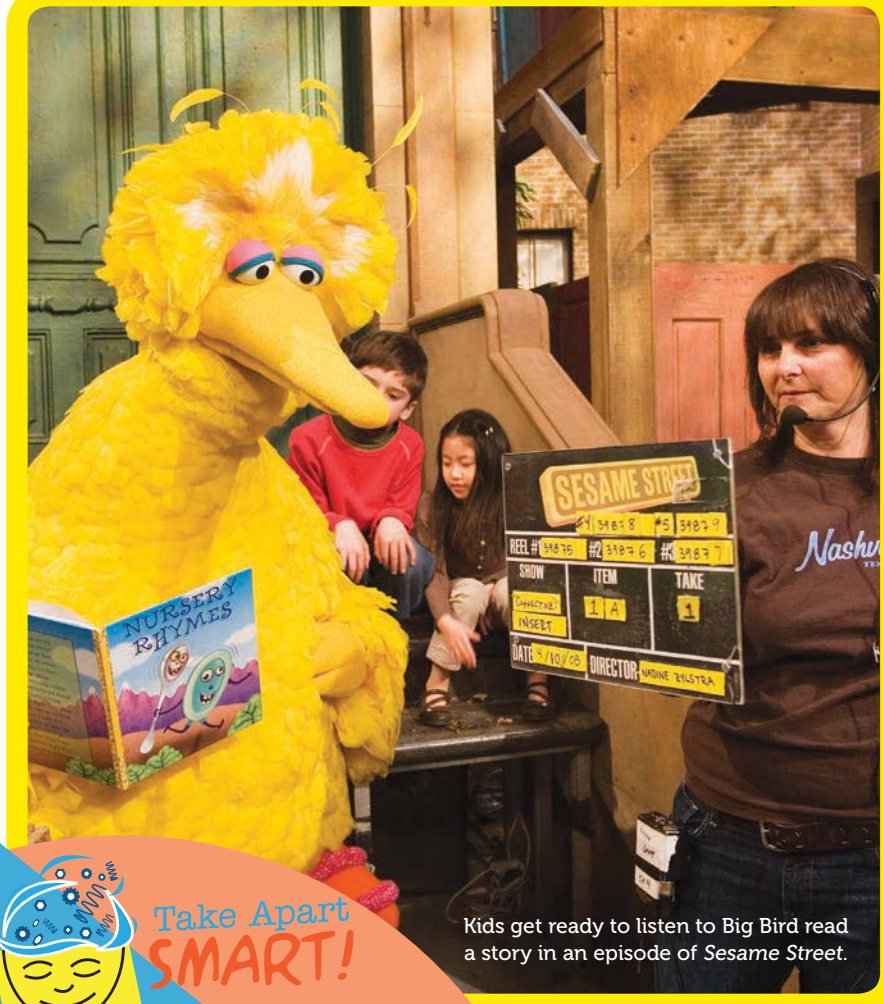
Mr. Spinney started playing with puppets as a boy. He used monkey puppets, snake puppets, and played puppet characters named Kookie Kangaroo, Mr. Lion, and two puppet cats named Picklepuss and Pop.

Sesame Street started in 1969. That's when Mr. Spinney began operating and voicing the green Oscar the Grouch puppet. He became Big Bird too.

Operating an eight-foot two-inch tall bright yellow canary isn't easy. Mr. Spinney stretched his right arm over his head to move Big Bird's head and neck. His left hand moved the left wing. The right wing dangled from a fishing line running through a loop in Big Bird's neck. Using a line attached to his left wrist, Mr. Spinney moved both wings. Most of the time, Mr. Spinney "saw" using a camera mounted on his chest.



Caroll Spinney



Kids get ready to listen to Big Bird read a story in an episode of *Sesame Street*.

Working the puppet became too difficult for Mr. Spinney as he got older. In 2015, he switched to doing just the Big Bird voice. Someone else worked the puppet. Now someone new is learning to be Big Bird. So the work Mr. Spinney started goes on.

Big Bird often offered this advice on *Sesame Street*: "If everyone in the whole wide world makes mistakes, then why can't you?" Making mistakes is part of being human. It's good counsel both to "work **heartily**, as for the Lord" (Colossians 3:23) and "[cast] all your anxieties on Him." (1 Peter 5:7)

What would it feel like to pretend to be the same character for almost 50 years? Mr. Spinney is glad he spent his life as the goofy yellow giant. "I would really be doing something right, perhaps even important," he says, "if I was bringing even a little more compassion into the world through Big Bird."

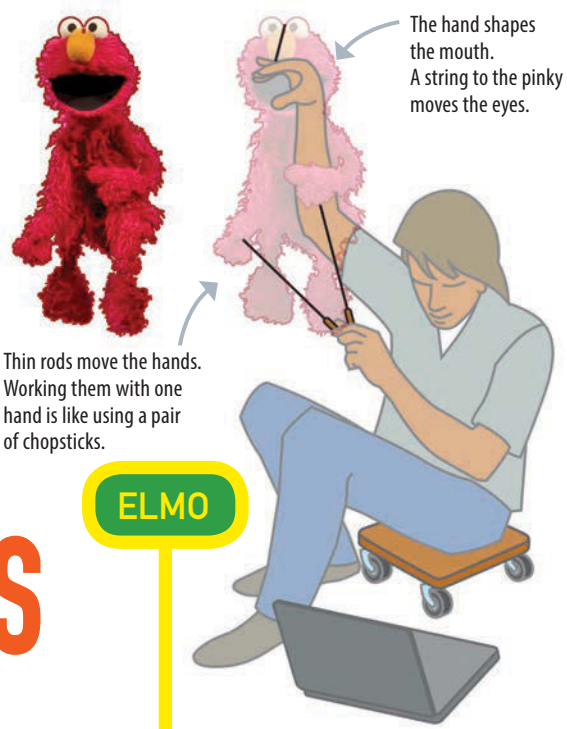
Big Bird's performer has stepped out of the feathery suit. But the character will continue. Jim Henson's Muppets have been around for half a century. But puppets have been around waaaay longer.

A traditional **marionette** is controlled by strings or wires. A **puppet** usually works like a big glove. When you learn how Muppets are controlled, you can understand how they may have gotten their name—**marionette** + **puppet** = **Muppet**!

Traditional marionette puppeteers stand behind a low wall. Hand puppet performers are usually hidden below the opening of a puppet theater. Muppet performers don't have to hide. They scrunch down, out of the camera's view. When a scene includes several Muppets, things can get kind of crazy. Performers sit on scooters, squinting at monitors and scripts. They reach around shoulders, over heads, and through arms. The performers look like they are playing a game of Twister!

There are three types of Muppets. But beware. Muppeteers are inventive. Like the Muppet name, many are combinations.

WORKING MUPPETS



ELMO

Hand-and-rod: The head is worked with one hand. Arms are moved by thin rods held in a performer's other hand. "Can you give me a hand?" When muppeteers say that, they really mean it. For all three Muppet types, there are times when a character has to do a lot with its hands. The Swedish Chef is an example. An assistant puts one or both hands and arms into the Muppet's sleeves while the main performer operates the head.

Full body: Like a sports mascot, a performer puts on a character's suit. Mr. Snuffleupagus takes two people.

BIG BIRD





OSCAR THE GROUCH

Live-hand: One hand **manipulates** the head. Because Muppets are made of flexible foam and fabric, the performer's hand can tilt, twist, and shape the character's mouth to create lots of expressions. The performer's other hand goes inside the Muppet's arm like a long glove. Muppets are usually left-handed. That's because most performers are right-handed, and working the mouth and eyes takes a lot of coordination.

AP Photos, R. Bishop

Baby Talk

Signing is in! In Washington, D.C., a new Starbucks opens with deaf baristas who speak sign language for the hearing impaired. Kindergartners in Tennessee learn to sing "Happy Birthday" in sign language for their deaf school janitor. And in Illinois, even babies are talking with their hands!

Abbey Cook meets with babies and parents in a classroom in Peoria, Illinois. She teaches 100 common words to kids between three months and three years of age. Kids in her popular classes crawl, walk around, and make friends. They sing and rhyme. But mostly, they learn sign language. To say "mommy," the babies hold out the five fingers on their right hands and tap their chins twice. To say, "milk," babies open and close their fists as if milking a cow.

Sometimes babies and toddlers **babble** but cannot be understood. That's because the mouth has a lot of muscles. Before a baby can learn to talk, his or her mouth muscles have to grow strong enough to form words. Often, fine motor skills in the hands develop faster than mouth muscles do. So even tiny kids can send clear messages with their hands. When kids can express what they want, they have fewer tantrums. And sign language isn't just a temporary helper. Kids are learning a real language they can use even after they're grown up. But sign language isn't the end goal of Ms. Cook's classes. Talking is! An old wives' tale says learning sign language can slow kids down when they're learning to speak. Ms. Cook says that isn't true. She says sign language only helps kids talk.

God made people to use language. As a rule, all kids—no matter where they live in the world—learn to speak in the same way and around the same time. They start with words. Then they move on to strings of words (phrases). Sentences come next, usually before a child turns four years old. When a kid starts to talk—using mouth or hands—you can say, "Hey! Your image of God is showing!" God made people in His image. And He uses language to teach us who He is. John 1 says Jesus *is* the Word. When kids learn to talk, they are developing one of the main skills they will use to get to know Him.



Abbey Cook teaches sign language to young kids in Peoria, Illinois.

AP Photos



eat drink more finish play now tired



A detail of a painting from the 1400s shows Zechariah with a tablet, writing the name of his son, J-O-H-N.

Signing: We Need to Talk!

In Luke 1, God promises a baby to the elderly Elizabeth. Her husband, Zechariah, questions whether this is possible. God's angel tells Zechariah he will be deaf and **mute**. When Elizabeth gives birth, Zechariah has to ask for a tablet so he can give the baby a name. The old priest spells out J-O-H-N. Immediately the elderly priest can hear and speak again.

ASL (American Sign Language)
The most developed and complete sign language
250,000-500,000 users in the United States

What if Zechariah had remained deaf and mute for a longer time? He might have started spelling out words with his hands instead of with chalk. That's known as fingerspelling. Each letter of the alphabet has its own finger position. It is a slower way to do sign language. But it is also accurate. Most people can learn it quickly. But fingerspelling is only part of sign language.

To communicate faster than fingerspelling, signs for whole words can be used. During the nine months he was deaf and mute, Zechariah and Elizabeth probably started using hand motions every day. Maybe they had signals for common things like "bed," or "water," and simple ideas like "wash," or "more." Certainly they found a way to say, "I love you."

PSE (Pidgin Signed English)
Imagine paying for every letter in a message. You would drop "in-between" words like "am, the, to," and unneeded endings like "-ed, -ment, -ing." That's the idea behind PSE. It's ASL but shorter, quicker, and easier.

BSL (British Sign Language) grew out of schools for the deaf in the late 1700s and early 1800s. It spread to Australia and New Zealand. Around 150,000 people use it today.

Zechariah was a priest. He had a "people job." Priests always had things to tell and folks always had questions to ask. If he had remained deaf, Zechariah and the people would have come up with many more hand motions—their own simple sign language. Today, there are more than 300 variations of sign languages in the world. And most of them began and developed exactly like that: People *needed* to communicate with each other. So they found a way.

PISL (Plains Indian Sign Language)
Not all sign languages have to do with deafness. PISL was one of the earliest sign languages. Tribes had many different languages. When Indians met on the American plains, they needed and came up with "hand talk" to communicate with each other.

ISL (Irish Sign Language) Since many kids in that country were taught in Catholic schools for only boys or girls, two versions of ISL developed. You may know people who speak English, Spanish, or German. Can you imagine people speaking "boy" or "girl?"

CSL (Chinese Sign Language) has the most users at 1-20 million. For about 50 years, people in China were told not to use sign language. Instead, they were taught lip reading. The first school for the deaf in China was started by missionaries from America.


hurt


mom


dad


yes


no

Quiz Take Apart Smart!

1. heartily
   - a) carefully
   - b) with sadness
   - c) with energy

2. manipulates
   - a) sees
   - b) works
   - c) ignores

3. babble
   - a) sign
   - b) jabber
   - c) bubble

4. mute
   - a) unable to speak
   - b) unable to hear
   - c) unable to see

Answers page 5

Hurricane Michael in the Gulf of Mexico



Beekeepers care for surviving hives after Hurricane Michael.

Hurricane Honeybees

Florida bees favor tupelo tree blossoms.





Tupelo honey gets top dollar.

Beekeepers in Florida gaze at toppled hives and stripped flowers. Hurricane Michael has knocked down people's homes . . . and bees' homes too. "Hurry!" beekepers say. "Bring us bee food fast!"

Trucks rush corn syrup and man-made pollen to the beekeepers. Surviving bee colonies need to eat. If they can eat, they can pollinate crops such as watermelons, cantaloupes, and blueberries . . . so people can eat!

"Just feeding my bees is the biggest concern," says Gary Adkison, a Florida beekeeper. "There's no nectar." Mr. Adkinson lost about 50 beehives in the storm. He has 100 left. Each hive holds 30,000 to 40,000 bees.

Bees in Florida make honey from orange blossoms, gallberries, and wildflowers. But they are most famous for making honey from white tupelo gum trees. People say this fruity, flowery honey tastes best—and they pay the most for it. Mr. Adkinson says everyone in his town keeps a jar of precious tupelo honey on the kitchen table. True tupelo honey is bottled straight from the hive. It does not crystalize. It remains a smooth, golden liquid.

Hurricane Michael hit Florida in October. Its winds blew 155 miles per hour! And the storm may have caused damage people cannot see yet. Tupelo trees grow in swamps in Florida and Georgia. Did Michael destroy some? People don't know yet. It's hard to reach the trees except by boat. After the storm, debris stood in the way of water travel. If trees have been damaged, they may take two or three years to start blooming again!

How sweet are your words to my taste, sweeter than honey to my mouth! — Psalm 119:103

CritterFile

ANIMALS AND HURRICANES

In Jacksonville, Florida, cats are flying.

About 100 cats and kittens took a plane ride out of Florida on October 15. Why? They were freeing up space! The cats were moved out of animal shelters to make room for animals that needed somewhere to stay because of Hurricane Michael.

Whenever a bad storm like Michael hits, pets get separated from their owners. After similar storms, animal workers learned a lesson: Don't take family pets out of their home state. Once that happens, it can be very hard for animals and owners to find each other again. The cats being moved were flown to shelters in Delaware. Pets stuck in the storm were taken to local Florida shelters until their owners returned to claim them.

When storms hit, power goes out. Floods wash property away. People must evacuate to safety and later rebuild. But God's creation is interconnected, and a storm brings consequences you might not think of. Hurricanes are one-eyed monsters. Their wild wind draws up water from the sea and slams it down onto places where people and animals make their homes. Hurricanes have serious consequences for animals. That includes six-legged ones like bees. It includes four-footed ones like cats. And it includes every other kind of creature too!

Some wildlife can sense coming storms. Birds feel barometric pressure drop. It isn't time for them to migrate, but they go anyway to escape. Other animals that can't flee so quickly get caught in the storm. Animal food supplies can be wiped out too. Squirrels' nut supplies get washed away. So people bring in emergency squirrel food.

Hurricanes can suck up the water animals live in. After Hurricane Irma hit in 2017, people had to rescue manatees stuck in a dried-out bay. Electrical wires sometimes fall into water, electrocuting fish. Mussels and oysters cannot move. They can't do anything about it if hurricane winds blow them where they can't survive.

But a storm isn't always bad news. Some kinds of toads and frogs can breed more easily in the extra water brought by hurricanes. Scavenging raccoons find additional food after a hurricane blows everything around. And toppled trees give black bears extra places to build homes. For a few animals, hurricanes have good consequences!



Robert Simmons Jr. gives his kitty, "Survivor," a ride out of a hurricane-flooded area.

AP Photos



Some animals were airlifted out . . .



. . . to make room for those found after the hurricane. That made it easier for local owners to find their pets.





Bill Frank Brown pets DeSoto, a 19-year-old Choctaw stud.

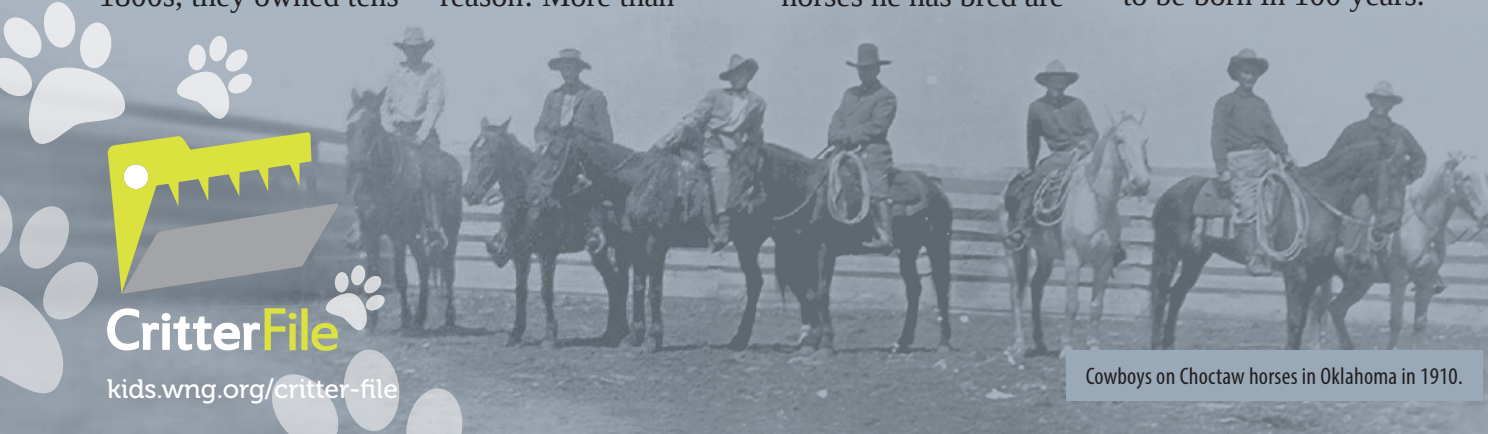
Almost-Forgotten CHOCTAWS

A cream-colored horse named DeSoto walks out of the woods in Poplarville, Mississippi. He is one of the rarest horses of all: a Choctaw.

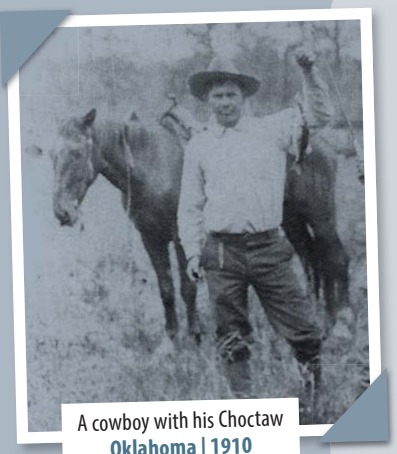
Choctaw horses belong to a group called colonial Spanish horses or Blackjack Mountain horses. They were brought to America by the Spanish. That was in the 1500s. Back then, Choctaw Indians lived in present-day Alabama, Mississippi, and Louisiana. They bred the horses. By the 1800s, they owned tens of thousands of them. But things did not go well for the Choctaw people or their horses. In 1830, Congress gave President Andrew Jackson the power to force Native Americans from their land. The Native Americans were made to leave places east of the Mississippi River. Choctaw, Cherokee, Chickasaw, Muscogee, and Seminole Indians ended up in Oklahoma. This huge movement of Native Americans is called "The Trail of Tears." And for good reason! More than 12,000 Choctaw people made the journey. But somewhere around 3,000 or 4,000 of them died along the way. The Choctaw Indians who survived became ranchers in Oklahoma.

Choctaw horses are small but tough. They are gentle. They like people. But they are critically endangered. A man named Bryant Rickman works in Oklahoma to bring Choctaws back. He guesses he has bred more than 300 of the animals. But all the horses he has bred are closely related. The gene pool he used was too small. To create a healthy breed, he needed new blood!

Then in trotted DeSoto. He saved the day! DeSoto is a stud. Studs are male horses that can still reproduce. People thought the Choctaws' old horses were gone from the U.S. South. But DeSoto was still in Mississippi! Now six of his foals scamper across a Mississippi pasture. They are the first Choctaw ponies with new blood to be born in 100 years.



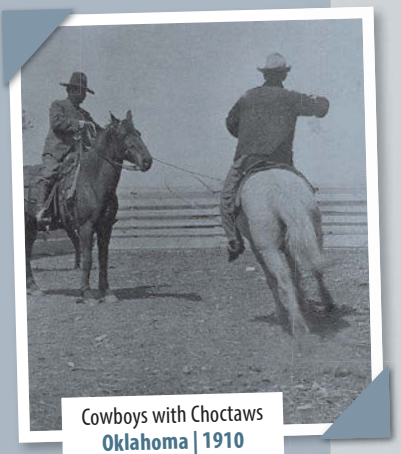
Cowboys on Choctaw horses in Oklahoma in 1910.



A cowboy with his Choctaw
Oklahoma | 1910



A Choctaw mare with her foal
Mississippi | 2018



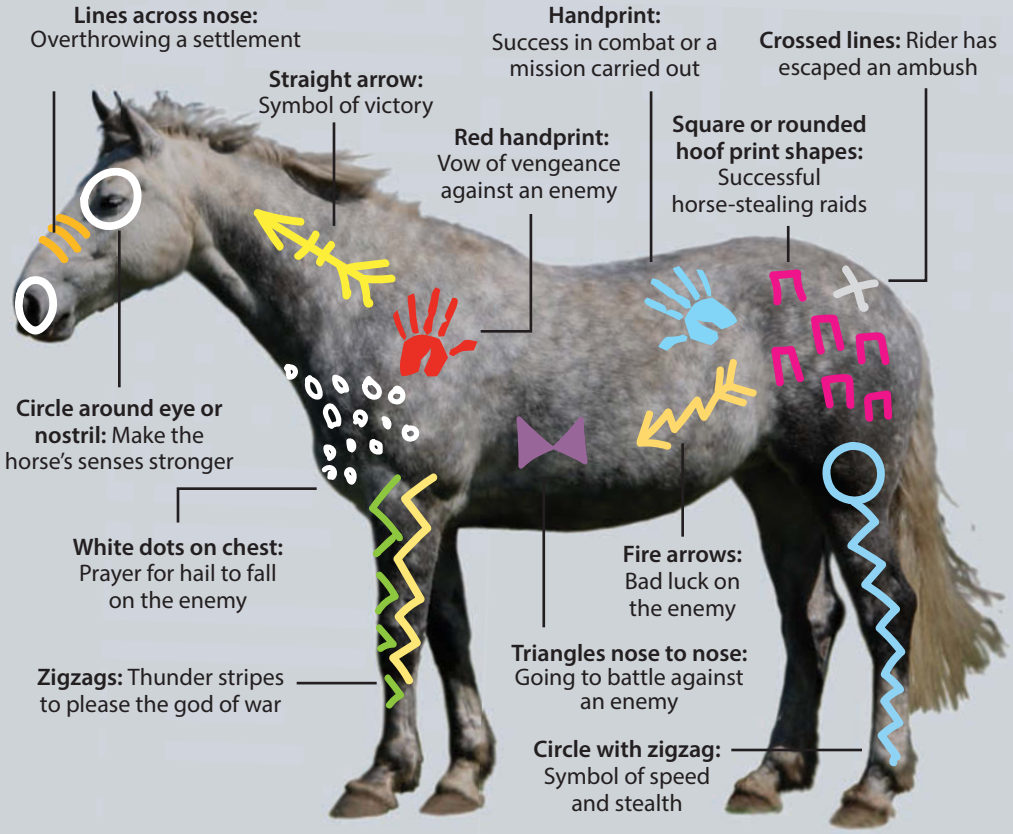
Cowboys with Choctaws
Oklahoma | 1910

Indians and Horses

Indians and horses just go together. But it wasn't always that way. In ancient times, Indians in America moved from place to place on foot. They carried belongings on their backs. They hunted and went to war on foot too.

It wasn't until the early 1500s that the Spanish brought horses to America. The Spanish fought native people and took control of the land. They forced Indians to work on their ranches. And even though it was a crime for Indians to own horses, Indians learned to ride and train them as they worked on the Spanish ranches. Eventually, Indians forced the Spanish out and began raising the horses they left behind in large herds. Things changed in a big way! Horses changed the way Indians moved their villages. They changed the way Indians hunted. And they especially changed the way Indians went to war.

Indians painted themselves before going to war. They painted their horses too. Native Americans ground or squeezed pigment from red and white clays, barks, berries, eggshells, charcoal, flower petals, plants, moss, root juice, ashes, and more. Colors and symbols had meanings. Some markings sent messages to an enemy. Others were tallies of victories. And symbols were used to call upon the power of false gods or magic. Here are a few examples of horse war paint.



Critter File Quiz

1. Who brought Choctaw horses to America?
- ☐ a) Native Americans
- ☐ b) the Spanish
- ☐ c) English colonists
- ☐ d) veterinarians

2. Which is true? Native Americans . . .
- ☐ a) always had horses.
- ☐ b) painted their horses.
- ☐ c) never used horses.
- ☐ d) never trained horses.

3. Hurricane Michael . . .
- ☐ a) damaged bee boxes.
- ☐ b) ruined bee food sources.
- ☐ c) killed all the bees in Florida.
- ☐ d) a and b

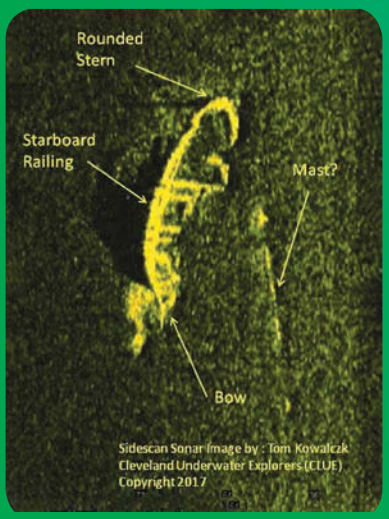
4. What happens to animals in storms?
- ☐ a) Their food washes away.
- ☐ b) They are separated from their owners.
- ☐ c) Water they live in gets sucked up.
- ☐ d) all of the above

5. For some animals, hurricanes are actually blessings. What animals benefit from hurricanes?

AP Photos

FOUND Lake Serpent! Maybe . . .

Shipwreck hunters dive 50 feet into Lake Erie in Ohio. They spy something buried deep under algae and sand . . . a ***schooner****!*

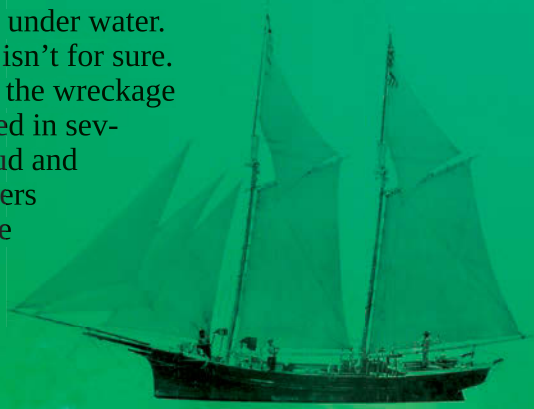


Could their find be the Lake Serpent? That ship sank nearly two centuries ago. The Lake Serpent had a serpent's head carved into its front. The boat was built in 1821 in Cleveland, Ohio. At that time, the now-big city was tiny. Fewer than 1,000 people lived there. The Lake Serpent's job was to carry cargo—fruits and vegetables, flour, whiskey, and limestone—to ports along the lakes. The boat set sail with a load of stone in 1829. It never returned. The body of one crew member was spotted in the lake days after the sinking.

In 2015, Tom Kowalczk spotted Lake Erie wreckage on a sonar screen. If it is the Lake Serpent, Mr. Kowalczk has discovered the oldest wreckage ever found in Lake Erie. Some signs point to a match. Divers say the wreck is the right size. They also uncover large stones like the ones the Serpent carried, and a carving at the ship's bow (front). Most ships from that time did not have such carvings.

On Lake Erie, violent storms can whip up in a hurry. The old lake is a graveyard for hundreds of vessels! Many have been found in recent years. But the Lake Serpent is especially hard to identify. It was built before ship builders began putting numbers or name plates onto ships. And much of the found wreck has been torn apart by years under water.

The match isn't for sure. Some parts of the wreckage are still covered in several feet of mud and sediment. Divers plan to explore the wreck again next year.



Sonar (top) and underwater photos (back) seem to show the Lake Serpent, a schooner like this one.

kids.wng.org/jet-balloon

R. Bishop, AP Photos

Shipping on the Great Lakes

You know that rivers played a big part in America's history. Explorers like Lewis and Clark followed the Missouri, Columbia, Snake, and other rivers westward. Barges moved goods and passengers along the Mississippi. Rivers are like highways. But did you ever think of lakes as part of America's watery road map? All five Great Lakes are naturally connected. But it took some engineering to make those connections work for shipping. Today, this Great Lakes waterway connects the **heartland** of America to the North Atlantic Ocean and the Gulf of Mexico.

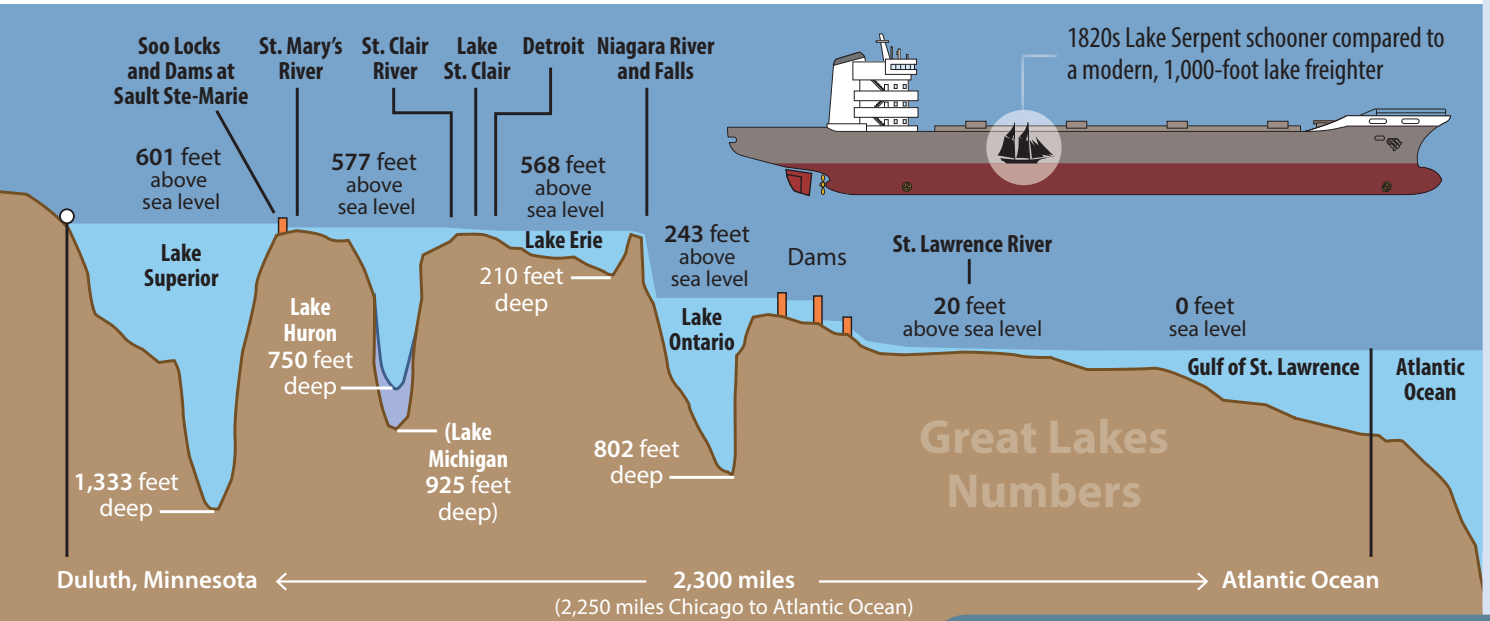
Like cars on a two lane road, up-bound ships (away from the ocean) and downbound ships (toward the ocean) stick to shipping lanes and marked channels that are deep enough and safe for their vessels.



Ships carry 125 million tons of cargo over the Great Lakes each year. It is estimated that 6,000 ships have sunk in these waters.

The Great Lakes hold 20 percent of the world's fresh water.

- Together, the Great Lakes and the St. Lawrence Seaway make up the biggest water transportation route in the world.
- From Duluth, Minnesota, to the North Atlantic Ocean, a ship takes about nine days to travel 2,030 miles.
- There are 50 ports along the Great Lakes waterway.
- Four thousand ships use the St. Lawrence Seaway every year.
- $7 billion worth of cargo is shipped through the Great Lakes every year—iron ore, coal, bentonite clay, and manufactured goods.
- A ship can move one ton of cargo 500 miles on one gallon of fuel.
- A "saltie" is a an ocean-going freighter that enters the Great Lakes. These 1,000-foot ships can carry the same load as 700 train cars or 2,800 large trucks.





A buyer checks frozen tuna during the first auction at the new Toyosu Market in Tokyo, Japan.

TUNA FOR SALE

Bells clang. Auctioneers shout. Huge tuna fish cram a warehouse wall to wall.

This isn't tuna from a can. It's the real thing—and Japanese people take it very seriously. How much will a fish-lover pay for tuna at the auction? Someone bids $38,000! And that price isn't uncommon.

How many kinds of seafood can you think of? Tuna might top your list. Can you come up with five more kinds? How about *400*?! More than 400 kinds of seafood come to the market from all over Japan and elsewhere. People at the market hunt for octopi, eels, and sea urchins—to name a few.

The market is the largest wholesale fish and seafood market in the world. A *wholesale* market sells large quantities of items to other sellers, who sell retail (directly to consumers). Since 1935, people have visited the market in the center of Tokyo, Japan's biggest city. About 40,000 people used to visit the old market, called Tsukiji, every day. Businessmen came to the outskirts of the market on lunch breaks to buy a little bit of fish: noodles and raw-tuna bowls from retail stalls nearby. Meanwhile, other buyers spent big bucks on the auction floor for large amounts of wholesale fish.

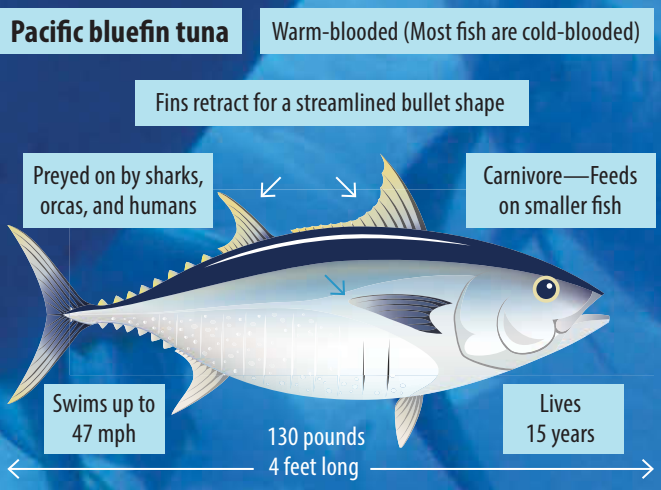
This October, the market moved a mile and a half away to a place called Toyosu. Why? Japanese people are making room for the 2020 Olympics! Aging market buildings in Tsukiji will be knocked down and replaced with a parking lot for the Olympics. But not everyone agreed that moving the market was a good idea. Many worried fish might become **contaminated** at the new location. People found a poison called arsenic in the soil and water there. So builders took extra steps for safety, using better water pumps and extra concrete to keep the poison away from the fish. Workers do not plan to drink the groundwater there or wash the fish in it.

Still, not everyone is convinced. The old market was quaint and full of history. The new one feels more like a factory. People could walk to the old market easily. They can reach the new market only by taking a train. Most nearby retail businesses moved to Toyosu too. But some sellers don't want Tsukiji's history to be lost. They say, "We're not leaving!"

123RF, AP Photos



A fish wholesaler at Tokyo's old Tsukiji fish market says, "If the new place were better, I'd be happy to move."





Sellers cut up bluefin tuna.

Quiz Jet Balloon

■ **1. schooner**
a) boat
b) serpent
c) city

■ **2. hearland**
a) nation's coast
b) nation's middle
c) nation's Capital

■ **3. contaminated**
a) eaten
b) polluted
c) larger

■ **4. innumerable**
a) infinite
b) microscopic
c) countless

Answers page 5

FISH AS FOOD

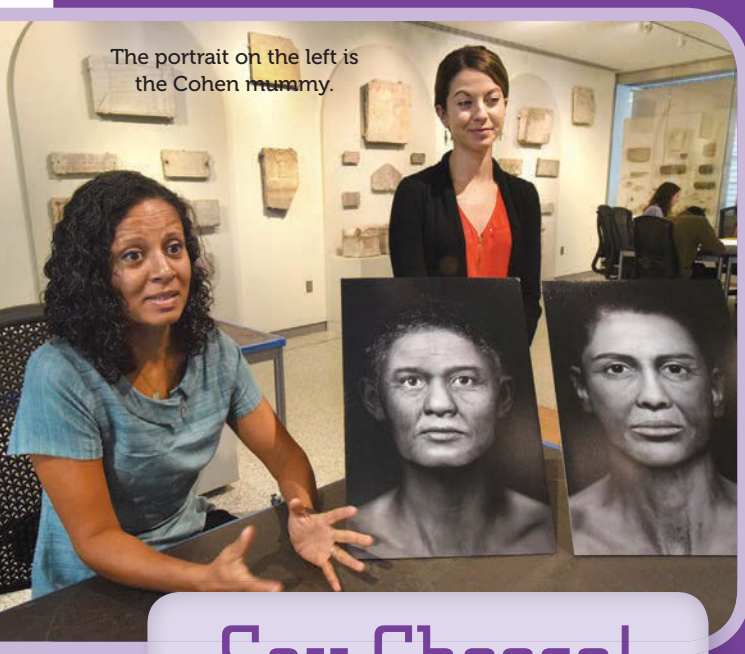
"Here is the sea, great and wide, which teems with creatures **innumerable**, living things both small and great." (Psalm 104:25)

People have identified thousands and thousands of types of fish—and they find new kinds every year. That's *a lot* of variety! And in many parts of the world, fish is a big deal. It's on the menu every day—especially in countries where people do not have a lot of money. Families in Thailand and Laos catch fish (and frogs!) in streams, canals, and flooded rice fields. In Spain, frugal fishermen get two meals out of one fish by eating the fish then boiling its leftovers to make broth to cook rice in. People in Zambia preserve their fish by putting it on drying racks. They must protect the drying fish from insects, birds, and rain. If this affordable fish is lost, poor people could go hungry.

When God made fish, He gave people something healthy to eat. Raw, pickled, smoked, or poached . . . eat a plate of fish and you're filling your belly with healthy protein. Protein makes every bone and muscle in your body work. Fish's omega fatty acids make your brain and heart healthy too. When food is scarce in poor parts of the world, fish can fill in the gaps. Do you remember the job Jesus' disciples Peter and Andrew had? They were fishermen! And fish still give people the jobs and food they need to live.



Along a road, a Laotian girl sells fish caught from a nearby stream.



The portrait on the left is the Cohen mummy.

Say Cheese!

It's been 2,300 years since these mummies were alive. Now they are showing their faces to the world!

The mummies can be seen at Johns Hopkins University Museum of Archaeology in Baltimore, Maryland. A team there scanned each mummy's skeleton. The mummy bones showed that both were women. Their teeth demonstrated that both ladies were around 40-45 years old. Historians, doctors, and artists looked closely for clues. Then the team created a picture of each woman. It's hard to believe how old these ladies are! Their portraits look like people we might meet today!



The Cohen mummy

Tiniest Octos

Can you handle the cuteness? These teeny-tiny octopuses are about as little as green peas!

Scientists were cleaning up coral reefs in waters off Hawaii this fall. They found two baby octopuses. The critters were floating on plastic trash. They have tiny beginnings. But eventually they may have an arm span of as much as seven feet.

Octopus babies hide under logs and other floating objects until they're a few months old. As these floated back to sea, one said goodbye . . . with a tiny squirt of ink!



This octopus is the size of a fingernail!

More sho
every
NE
SHO
kids.w



Hammer holes in the glass case that housed the Magna Carta

Stop, Thief!

In Salisbury Cathedral in England, a man tries to smash a glass box. The box displays a treasure: the Magna Carta.

The Magna Carta is an old, old list of laws. People wrote it in Latin on sheepskin, and King John of England signed it in 1215. Three other copies exist too. The Magna Carta ("Great Charter") changed life forever in England—and in many other parts of the world too. The Magna Carta says people have rights and that kings don't get to do whatever they want. They have to obey the law just like everyone else.

Police arrested the would-be Magna Carta thief. He didn't successfully take the law . . . but he sure did break the law!

AP Photos



St. Mark's Square in Venice, Italy

High Tide

Can you imagine a city where some of the streets are made of water? It really exists! Venice, Italy, was built in the middle of a lagoon. To get from place to place, people can ride in boats called gondolas. But this fall, Venice's regular (non-water) streets were wet, wet, wet . . . too wet even for Venetians! An unusually high tide put much of the city under water. Venice's mayor says underwater barriers could have stopped the flood.

God used Moses to lead His people out of Egypt through the Red Sea. Venice's new barrier project is called Moses. It will protect people from water. It will raise barriers when the tide reaches 43 inches. In Venice, that happens about four times a year.

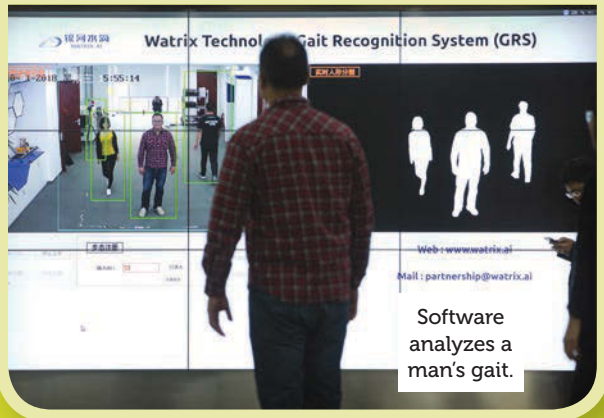
rts online
y day!
ws
ORTS®
ng.org

Watch Your Step

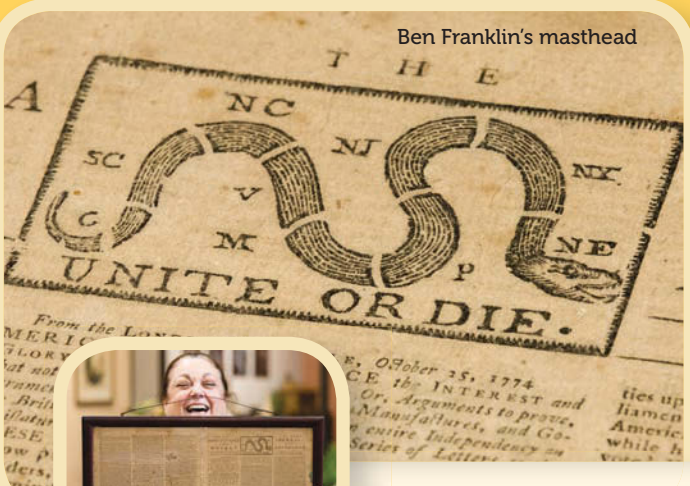
Police on the streets of Beijing, China, look for suspects. They use a tool that studies the way people walk.

Every person has his or her own gait. A *gait* is a way of walking. New software can identify people by gait. It can recognize people 165 feet away. Try hunching or limping. Even that won't outsmart the gait-watching tech!

Other technology used in China can recognize people by studying their faces. Gait studying can fill in the gaps and identify people even when their faces are hidden from cameras. But should it? Some people like their privacy. They think facial-recognition software is taking things too far. For them, gait recognition just makes things worse.



Software analyzes a man's gait.



Ben Franklin's masthead



Heather Randall displays the treasure.

Revolutionary Find

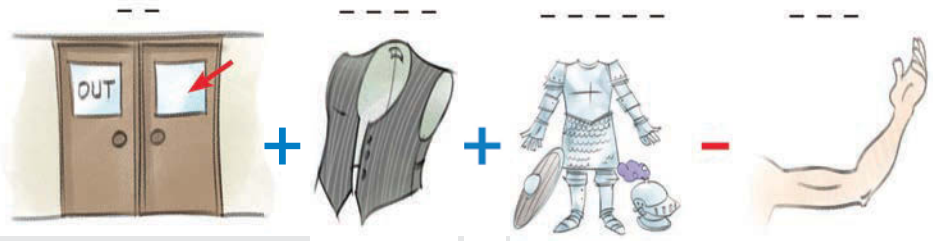
Workers at a Goodwill store in Woodbury, New Jersey, spot something unusual. It's an old document . . . with some very familiar names inside.

A cut-apart snake design and the words "Unite or Die" appear at the top of the old newspaper from December, 1774. American founder Benjamin Franklin gets credit for this artwork. And he's not the only famous person in the paper. It also contains three articles by John Hancock. Mr. Hancock signed the Declaration of Independence on July 4, 1776.

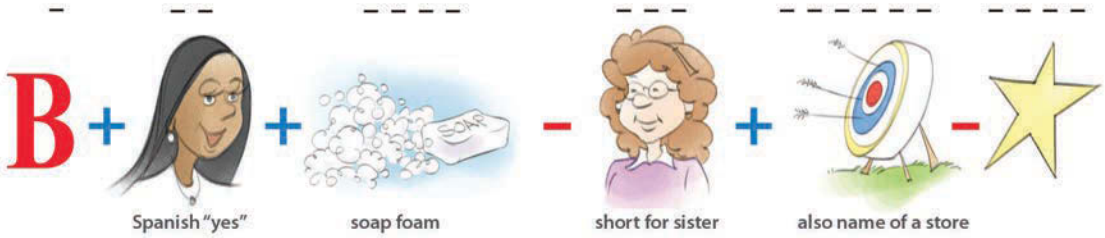
Good eye, Goodwill! The newspaper—one of only three known to exist—is probably worth between $6,000 and $16,000.

Puzzling Times

The Great Lakes (page 27) have a lot to do with economics—how money is earned and used. Solve these word math puzzles to learn some economics words. Read the hints if you get stuck.



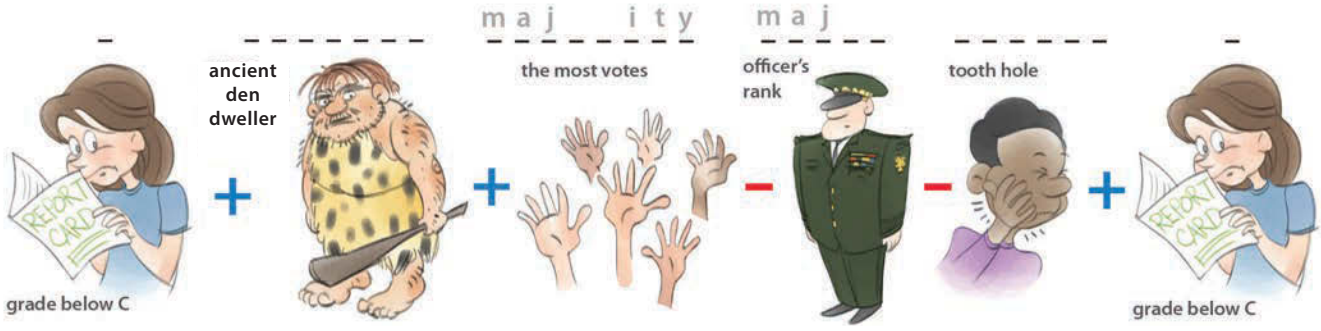
someone who gives money to a business expecting more money in return eventually



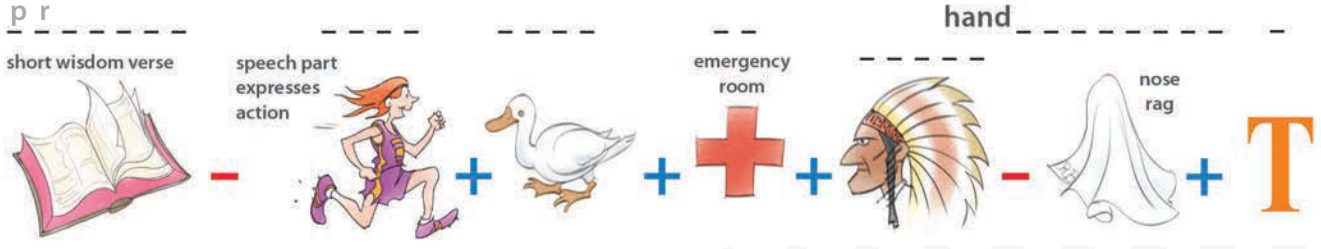
a plan for spending money—you're not too young to have one



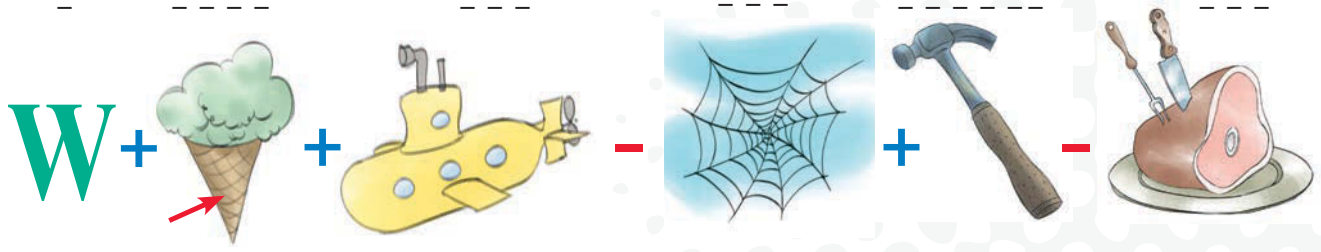
the amount of a product or service that is available



the amount of a product or service that people want and are willing to pay for



a person or business that uses resources like raw materials and labor will provide this



one who buys and uses the goods made by someone else or pays for services

Answers page 5