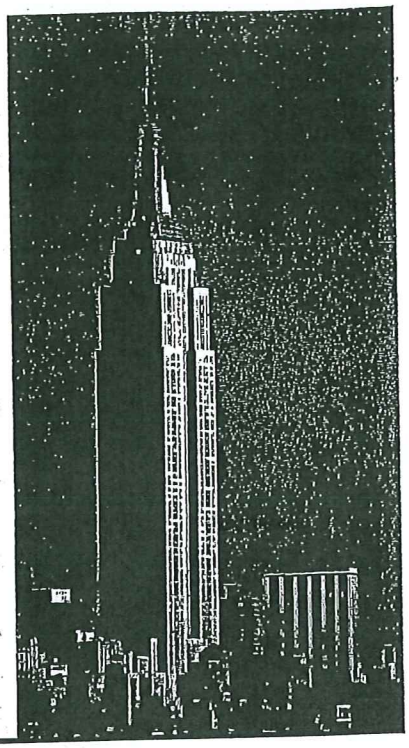
Stair Masters

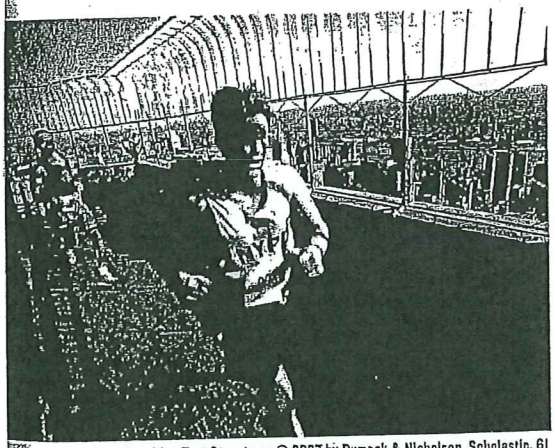
by Patrick Morgan



The Empire State Building in New York is one of the tallest buildings in the world. How long does it take to run all the way up? Every year, more than one hundred people find out when they take part in the Empire State Building Run-Up.

The Challenge

To race up the stairs of the Empire State Building.



The Race

The competitors race in three groups: the fast men, the slow men, and the women. Each group runs separately, and the person with the fastest time in each group wins. The runners race up 1,576 stairs from the lobby to the eighty-sixth floor.

The fastest man and the fastest woman each win a trophy.

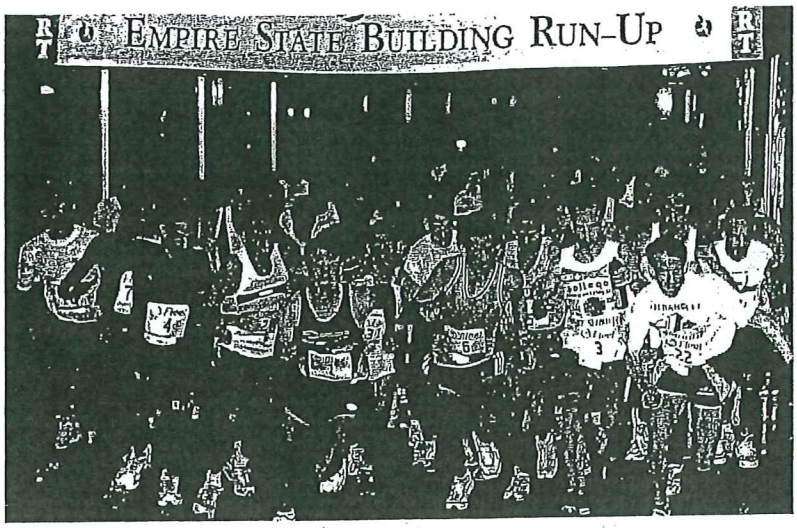
The History of the Race

The first Empire State Building Run-Up took place in 1978. Fred Lebow, who lived in a **walk-up**, figured that if he walked up the stairs every day, why not run a race up them all? His idea caught on, and now there are stair races all over the world.

Fifteen runners competed in the first race up the Empire State Building. In 2001, 154 runners from 15 countries took part in the race.

Recordholders

Year	Runner	Time	Note
1978	Gary Muhrcke, USA	12 minutes, 33 seconds	First men's champion
1978	Marcy Schwamm, USA	16 minutes, 4 seconds	First women's champion
1996	Belinda Soszyn, Australia	12 minutes, 19 seconds	Women's recordholder
2001	Paul Crake, Australia	9 minutes, 37 seconds	Men's recordholder
2001	Chico Scimone, Italy	35 minutes, 5 seconds	Oldest runner (89 years old)



word wise

- **walk-up:** an apartment building without an elevator
- **flight:** a series of steps between one floor of a building and the next

Who Races up the Empire State Building?

Gary Muhrcke, who won the first race in 1978, couldn't wait to see the view from the top. It was his first visit to the Empire State Building.

"Everyone knows the Empire State Building, but not everyone has the chance to say they've run up eighty-six **flights**. That's nearly my age!" said Chico Scimone from Italy.

At 89 years old, he was the oldest competitor in the 2001 race, and he completed the run-up in 35 minutes, 5 seconds. It was his eleventh time in the race.

"I was worried I wouldn't finish, but I did it," said Philip Florie. "It was a challenge. I'm over 60 years old, and I wanted to prove I could do it." This was Philip's first attempt at racing up the stairs (he usually takes the elevator), and he finished in 21 minutes, 54 seconds. He didn't have to travel far for the race—he works as a security guard in the building.

Paul Crake from Australia set a new record in 2001. His goal was to finish in less than 10 minutes, and he ran in 9 minutes, 37 seconds. "At the start, there was a lot of pushing and shoving, but then I settled in," Paul said. He climbed two stairs at a time. Paul has competed in stair races and mountain races in the United States, Europe, Asia and Australia. He trains by running up stairs and hills and does a lot of cycling.

Fact File

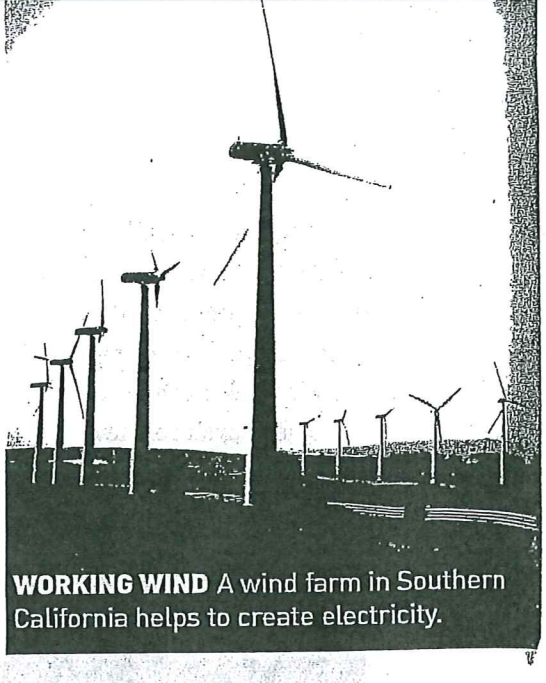
- Building the Empire State Building was a challenge. It was the tallest building in the world when it was finished in 1931. It was built in just one year and 4 days.
- Total height to the top of the radio mast: 1,454 feet
- Height of the building: 1,250 feet (102 Floors)
- Height of the 86th floor (observation deck): 1,050 feet
- Number of elevators: 73.

Race	Building height	Number of stairs
Empire State Building, New York	1,454 feet	1,576
Petronas Towers, Kuala Lumpur, Malaysia	1,483 feet	2,058
Sky City Tower, Auckland, New Zealand	1,076 feet	1,081
AMP Tower, Sydney, Australia	1,001 feet	1,550
Montreal Tower, Montreal, Canada	544 feet	850

Fueling the Future

by Paul Coco

People across the country are working to find newer and cleaner fuels and energy



WORKING WIND A wind farm in Southern California helps to create electricity.

Earth Day is April 22—a great time to think about how we can protect our planet in the future. Experts say finding new ways to bring fuel and power to people around the world is one of the most important steps toward preserving Earth's resources for years to come.

For example, can you imagine riding in a school bus that runs on fuel used for cooking? Or what about living in a home that is heated by turkey parts?

Finding new energy sources is more important than ever. According to a recent report, human activity is destroying about 60 percent of Earth's natural resources.

In an effort to protect those resources, some scientists are using sun and wind for energy. Others are using organic materials, such as corn and even animal parts to make cleaner fuels.

Fuel for Transportation

Fossil fuels—oil, natural gas, and coal—are used to create power for electricity or refined into gasoline to power cars, trucks, and buses. Fossil fuels can cause harmful pollution.

Recently, a group of college students from Vermont wanted to promote cleaner forms of fuel. They traveled across the U.S. in a bus fueled by biodiesel, a fuel made from vegetable oil. On the trip, the students filled the tank with cooking oil used at restaurants.

"Biodiesel greatly reduces carbon dioxide and carbon monoxide," says Stephen Swank, 22, one of the students.

Many people believe carbon dioxide and carbon monoxide cause global warming.

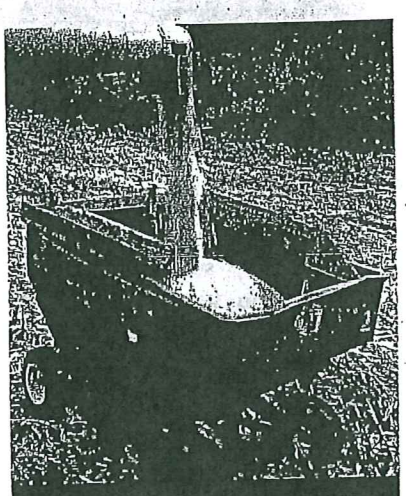
Another alternative fuel made from corn, called ethanol, is being used by people across the U.S. to fill up their cars. Ethanol is made by breaking down the sugar found in corn. Ethanol can be

word wise

- **organic:** (or-GAN-ik) adjective. To do with or coming from living things.
- **fossil fuel:** (FOSS-uhl FYOO-uhl) noun. Coal, oil, or natural gas, formed from the remains of prehistoric plants and animals.

blended with gasoline to create a cleaner type of fuel. About 30 percent of all gas used in the U.S. last year was blended with ethanol.

The search for new kinds of fuel has led to even stranger ideas. One company is developing a process to make **organic** fuel from animal parts!



ORGANIC FUELS Corn can be turned into liquid fuel. Fuel can also be made from turkey parts.

Changing World Technologies (CWT) mixes turkey parts with grease and water. The mixture is heated to about 1,000 degrees and put under great pressure, which breaks down the turkey parts. CWT also uses tires and garbage to make cleaner fuel.

"If we take plastic, tires, and [turkey] bones and turn that into fuels, much less fossil fuel will need to be dug up out of the ground," says Brian Appel, who heads CWT.

Help From the Sun and the Wind

Some houses across the U.S. are powered by solar energy, or energy from the sun. Solar panels placed on the roofs of these homes collect sunlight and turn it into electricity, without waste or pollution. This electricity is used to heat and light homes, even when it is dark outside.

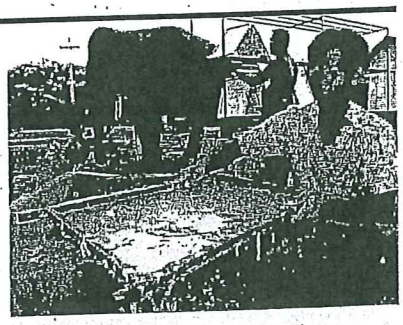
Some lawmakers in Los Angeles, California, want solar panels installed on about 30,000 rooftops by 2017. That much solar power would help reduce the amount of carbon dioxide in the air.

Like the sun, wind is another source of energy. Wind turbines, or windmills, are being used to turn wind power into electricity in more than 30 states. In states such as Minnesota, Iowa, California, and Texas, large numbers of windmills are built close together to form wind farms. As of this year, windmills created enough electricity to power about 1.6 million U.S. households.

"We need to think about using cleaner types of energy," Swank says. "Working on the problem now will reduce the harm people cause the earth."

Recycling Waste

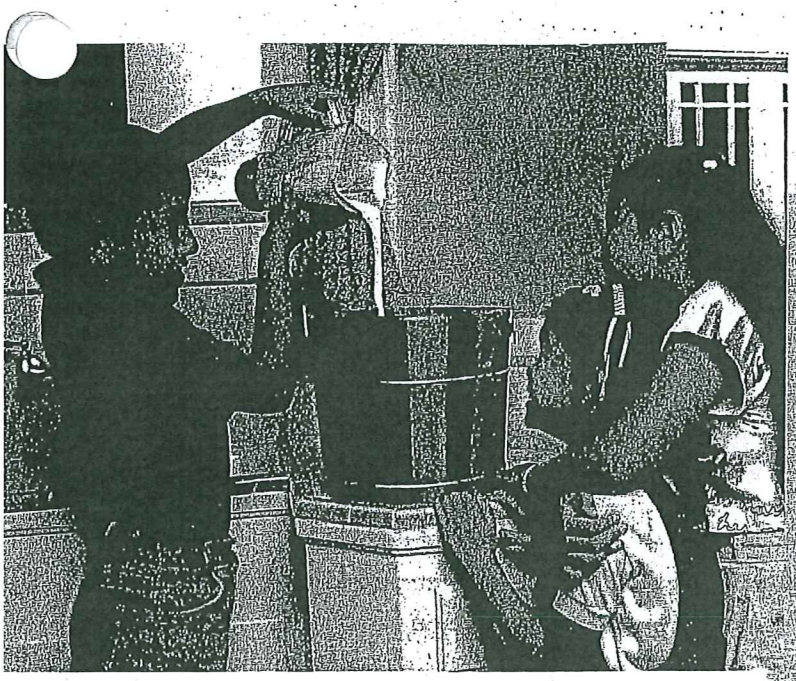
Animal droppings are used to make paper



What do you get when you boil elephant poop, cut it, and press it flat? If you guessed sheets of paper, you are correct.

Companies in Asia, Africa, and Australia are recycling animal waste to make paper products. The Thai Elephant Conservation Center in Lampang, Thailand, is one place selling the poopy paper. The average elephant drops more than 100 pounds of poop each day, which can be made into about 115 sheets of paper.

To make the paper, workers wash and boil the poop for five hours. It is then dried, cut, and pressed into different types of paper. Best of all, no trees need to be cut down to make the paper.



Making Ice Cream

by Jill MacGregor

Everyone in our class likes ice cream.

Our teacher found a recipe for making ice cream without a freezer. She said that if we brought the equipment, she'd bring the ingredients. Next morning, everyone arrived at school with:

- a large jar with a lid
- a smaller jar (with a tight-fitting lid) that would fit inside the larger one
- a spoon
- a hand towel

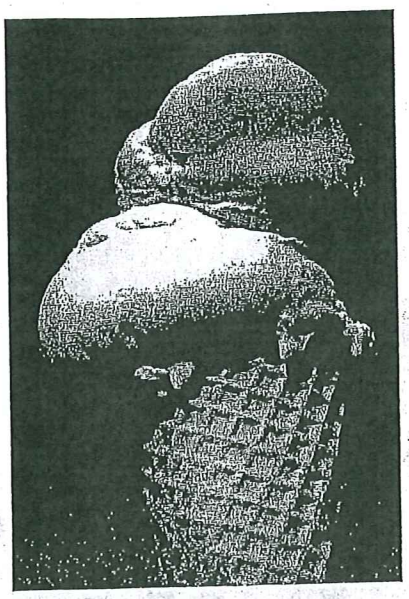
The teacher brought fresh whipping cream, sugar, vanilla essence, ice cubes, and rock salt.

First, we measured the ingredients. We each needed:

- 1/2 cup of fresh whipping cream
- 2 tablespoons of sugar
- a few drops (no more than 1/4 teaspoon) of vanilla extract
- 2 tablespoons of salt
- ice cubes

In the smaller jars, we mixed a small amount of the cream with the sugar until the sugar dissolved. Then we added the rest of the cream and the vanilla, leaving a tiny gap at the top of the jars.

We screwed the lids on tightly. Now it was time to make our "freezers." We broke up the ice into small pieces and put some of it into the bottom of the large jars. Then we placed the smaller jars into the bed of ice and added more ice to cover them. Lastly, we sprinkled the salt over the ice and screwed the lids on tightly. Our ice cream makers were ready.



To turn our cream into ice cream, we had to roll our jars backward and forward for four minutes, then rest for one minute. We had to repeat this five times altogether.

The ice cubes clinked against the glass. The jars clattered on the desks. The classroom was so noisy that our teacher told us to roll the jars on the carpet instead of the desks.

The jars grew colder and colder. The ice inside them began to melt. It turned slushy and sloshed around in the jars. On the outside, the glass frosted over, and we scratched our names in the ice. Our hands started to freeze, so we wrapped the jars in towels. When our arms started to ache, we rolled the jars with our feet.

We kept out eyes on the clock. We wanted to open the jars and check the ice cream, but the teacher said we had to be patient. When the time was up, we unwrapped our "freezers."

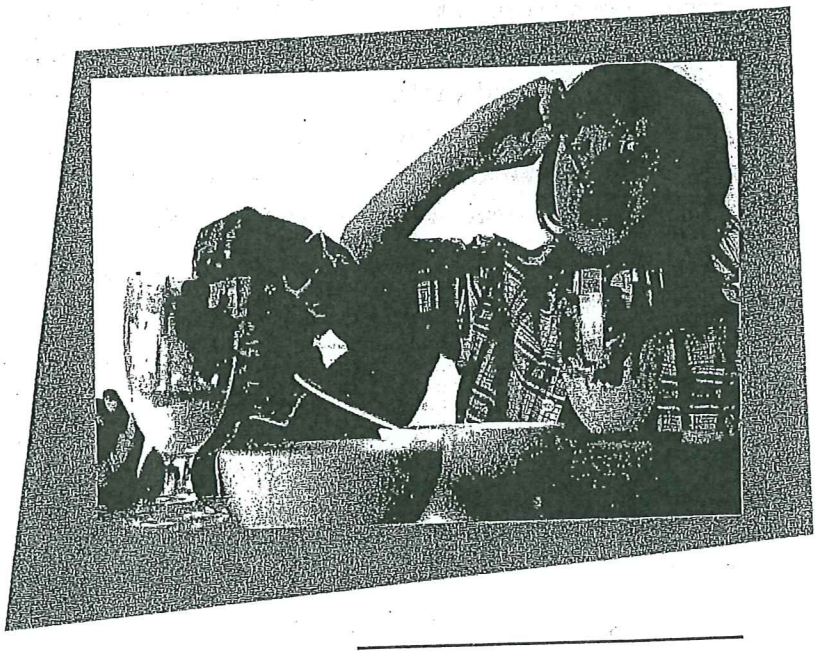
It was hard to get the lids off. "Remember to wipe the jars," said the teacher. "Otherwise you might get salt in your ice cream."

When we opened our ice cream makers, all our hard work was worthwhile. The ice cream was really ice cream. It was smooth and creamy. "It's delicious," said Juliana.

"This is better than store-bought," said Shannan.

We learned that it was important to follow the recipe carefully. Emma and Daniel had used too much cream, so they had to drink their ice cream. It was more like a frothy milk shake. Robert had used too little cream, and his ice cream was so solid that he needed a sturdy spoon to get it out of the jar. But by the end of the day, everyone's ice cream had disappeared.

Next time, we decided we'd add our favorite flavors—chocolate chip, marshmallow, strawberry, or . . .?



Variation

If this recipe is too rich, you could try using half yogurt and half cream.

Swimming: Then and Now

by Tessa Duder

Pamela was doing her best. If she could swim a decent 200-meter time trial, she and the rest of her training squad could call it a day and go home.

So there was the squad, leaning against the land ropes, cheering her on. The air was warm and heavy: a January afternoon in Auckland. It was right at the end of their second session for the day, so she'd already clocked up over 10 kilometers in the water. They were all tired. Pamela, coming to the end of her time trial, was especially tired.

She finished. Her coach looked at his stopwatch. In a matter-of-fact voice he said, "Two thirteen. Well done." They were all allowed to go home.

Two minutes thirteen! I gulped. I know that swimming records are a lot faster now than they were 40 years ago, when I swam for New Zealand, but this was a 14-year-old girl training in a turbulent pool, dead tired. Two thirteen would have been a respectable time for a Senior Male Swimmer in my day.

To top it off, she wasn't even gasping for air. I was impressed. I was also interested to talk to the coach, and find out why times have improved so much. This is what I learned.

Tessa Duder, now an author, was once a competitive swimmer, and in 1958, won a silver medal at the Commonwealth Games in Cardiff, Wales.

Body Gear

Today's swimmers wear slinky lycra suits, cut to reduce drag. For competition, they wear "paper" suits—so super-thin they take about 10 minutes to put on and last only for a few races. For training, they wear two old pairs, to increase weight and resistance, and therefore make their muscle work harder.

They regularly shave off all their body hair and wear bathing caps. For really important races some boys shave their heads. Apparently it feels terrific in the water. Most people wear goggles, to protect their eyes from chlorine, and to see better underwater.

Until the 1970s, swimmers raced in suits made of slippery nylon, designed more for modesty than speed. Because they were not very close fitting, they scooped up water, creating weight and drag for the swimmer. The girls often developed rashes under the arms because the suits were badly cut and they chafed. The goggles we had then were uncomfortable, so we had to put up with eyes stinging like hot coals from the chlorine.

Training

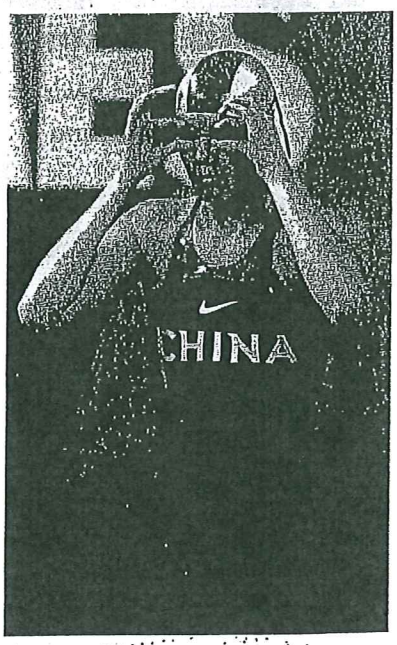
Today's serious swimmers train as a squad, all year 'round. The girls do mostly the same program as the boys. Serious swimmers at the national level do about 10 sessions a week, averaging about 12 kilometers a day.

During training, they sip water or energy replacement drinks. They use "pullboys" (placed between the thighs for arms-only training), hand paddles (to build up arm strength), and "bungy cords" attached to a waistband (to provide resistance)

Coaches use videos to check a swimmer's technique. They check heartbeat rates regularly, and occasionally take blood tests. Experts are available to help with diet, training methods, and sports medicine. Sports psychologists can teach young swimmers how to visualize themselves as champions.

Pools are better designed now, with less turbulence, heated water, and lanes set aside for training.

In the fifties, I trained twice a day, but only from October to March, clocking



up about seven kilometers a day. Training was a lonely business. We had an individual program of three to four kilometers and we just went off and did it, sometimes in pairs, sometimes alone.

No videos, of course—they hadn't been invented yet, so our coaches did what they could with photos or home movie cameras. Our coaches used stopwatches, but we didn't bother much about heartbeat rates, and I never had a blood test.

There were fewer pools, and they were often unheated, with choppy water. We used kickboards, but it never occurred to us to drink water while we were training, even though we got very hot. And we had never heard of sports psychologists.

Diet and Drugs

Today's swimmers eat healthy food: lots of vegetables and fruit, and not much red meat—none at all before the race. They seldom need vitamin pills or extra minerals.

They are very aware of the dangers of drugs and medicines. International rules are very strict. Even cough mixtures and pain relievers are banned, so athletes try not to get coughs or headaches.

For us, the best pre-race meal was a good juicy steak! We didn't know then that carbohydrates are the best pre-race food. Lots of us popped vitamin pills like jellybeans. The real problems with other performance-enhancing drugs in sports only began to be recognized later, in the sixties.

Opportunities

Today's promising swimmers get to compete all over New Zealand and internationally as well. Sponsorships are available to help them train and compete overseas for long periods. They can earn money (it has to go into their individual trust fund to be used only for swimming purposes) while still remaining amateurs.

In the fifties, before jet travel, we hoped for Commonwealth or Olympic games selection every second year. That was about it. Sponsorships for individuals was unheard of.

But we did get the chance to travel within New Zealand. In the days before television, people really enjoyed visits by stars, even junior ones! Swim meets were called carnivals, with water polo, clown divers, and water ballets as well as races.

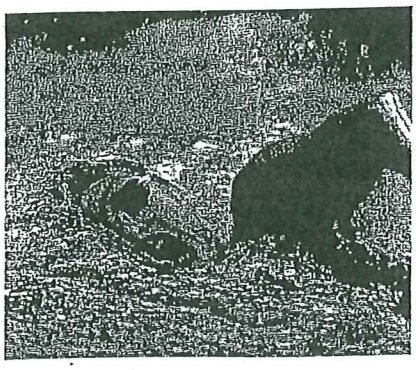
Choices

If you enjoy the water, there are many choices now besides competitive swimming: water polo, triathlons, life saving, synchronized swimming, diving, distance swimming, canoeing, rowing, and yachting.

So competitive swimming has become more specialized. If you choose to go for it, you have to be very disciplined. You learn to manage your time. You have to get used to travel, to talking to the media, and to getting up at 4:45 A.M.!

In the fifties, boys had many more choices than girls. Girls can now do triathlons, play water polo, compete in overseas canoeing, rowing, or sailing, or become professional lifeguards. None of these were likely then.

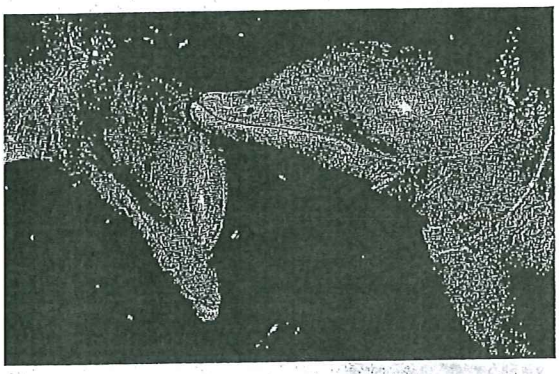
But we all needed the same dedication to our sport to succeed. I traveled and made lifelong friends from my sport.



Swimming: Then and Now

Animal Messages

by Kevin Boon



If you own a cat, you can tell when it's happy. It purrs. When it wants a drink, it might rub against your legs. When it hisses and spits, you know it's angry.

Animals don't talk like people do, but they can still communicate with each other and with us. Some use sound. Others use smell or color to get their message across. They might even do a dance!

Sounds

Squeaks and Clicks

Bats send out high squeaks and listen for the echoes bouncing back. An echo can tell them there's a bug up ahead or to watch out for that tree!

Bats use squeaks to communicate with each other as well. When a mother bat returns from hunting, she needs to find her babies. This can be hard if there are lots of bats in a cave. Her babies know her sound and squeak back. The mother follows their squeaks and takes them to the food she has caught.

Dolphins make squeaking and clicking noises. These come from near the blowhole on top of a dolphin's head. Under water, dolphins use a high sound like bats as they hunt for food. They listen for the echoes just like bats do.

Scientists think that dolphins also use these sounds to communicate with each other. They don't know exactly what the sounds mean. They could also help a dolphin find other dolphins in its school. The sounds might also mean "Danger!" or "I've found food."

Animal	Sign	Message
Dog	Growl	Don't come near.
Bat	Squeak	Where are you? I've found food. Danger!
Tree Frog	Bright Colors	Don't eat me, I'm poisonous.
Octopus	Red Color	Keep away!
Firefly	Flashes of light	Where are you?
Bee	Dance	Follow me to find food.
Skunk	Spray	Keep away!

Red Alert

Birds often use alarm calls to warn other birds if cats or other predators are near. Here are some examples of these warning messages.

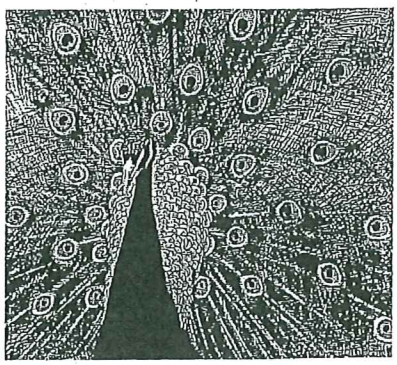
Bird	Type of Call	Message
Robin	Low whistle	Predator is somewhere near!
Redshank	Loud and shrill	Danger!
Jay	Rattling sounds	Predator is near. Please help!
Stonechat	(1) Whistle (2) Rattle	Watch out for hawks! Danger on the ground!

Songs

Birds sing for all kinds of reasons. When a male bird chooses a place for a nest, it sings to tell other males to keep away.

Male birds often sing special songs or show their colorful feathers to attract a mate. Male peacocks have very large, beautiful feathers. They can even spread them out like a fan. They might even do a special dance!

Once birds have mated and had chicks, they can tell which chicks, are theirs in a large group. When mother penguins return from fishing, they listen for the special sounds of their chicks' voices.



Young birds learn their songs by listening to older birds. As they grow, they add their own notes.

Whales sing songs, too. They make very high sounds that travel a long way under the ocean. Scientists think that the sounds might help whales to find other whales in their school.

All the whales in a group sing the same song. If one of the whales changes the song, then all the whales start singing the new song! No one knows exactly what the whales' sounds or songs mean.

word wise

- **blowhole:** a hole that some sea creatures have on top of their heads for breathing
- **colony:** a group of animals or insects living together
- **communicate:** to give or exchange messages
- **figure of eight:** the shape of the number eight
- **lure:** a decoy used to attract something
- **nectar:** a sweet liquid inside flowers that bees collect to make honey
- **poisonous:** having a bite or sting that can hurt or kill
- **predator:** an animal that kills other creatures for food
- **school:** a group of fish or other animals that live in water and swim together

Silent Messages

Color

Some spiders have bright stripes down their backs or around their legs. These send other animals a message. "I'm poisonous. Stay away!" Many poisonous snakes and frogs have bright colors for the same reason. Some animals try to trick their enemies. They have bright colors, but they're not poisonous. The blue-tongued lizard looks very frightening when it sticks it tongue out. The frill-necked lizard has a colored flap of skin behind its head. Predators think that these lizards are poisonous, and they run away. The lizards are sending a message, but it's not true.

Some octopuses can make their skin change to a pink or red color. This sends a message to predators—"Stay away. I'm angry!"

Chemicals

Ants can make a strong chemical to tell predators to stay away. When one ant does this, it sends a message to other ants. They all make the same chemical too. This helps the whole colony of ants to protect itself.

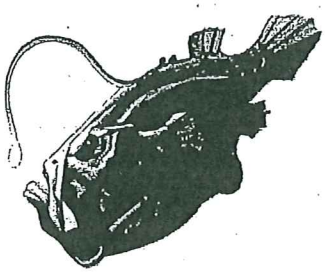
Smell

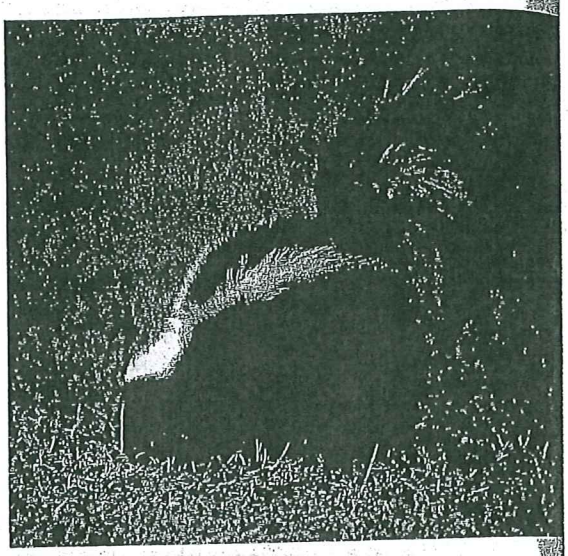
Some animals use smell to send a quick and nasty message to animals that bother them. Skunks have a black and white coat. These colors are usually enough to tell a predator to stay away. If this doesn't work, the skunk sprays a bad smell at the predator. This gets the message across!

Light

Fireflies send out short flashes of light to find each other and to attract mates. Glowworms send out light to attract insects. When the insects come close, they catch them and eat them.

Under the ocean, many fish and animals use light to attract food and mates and to frighten predators away. The seadevil fish has a long body part, or lure, on its head that works a little like a fishing pole.



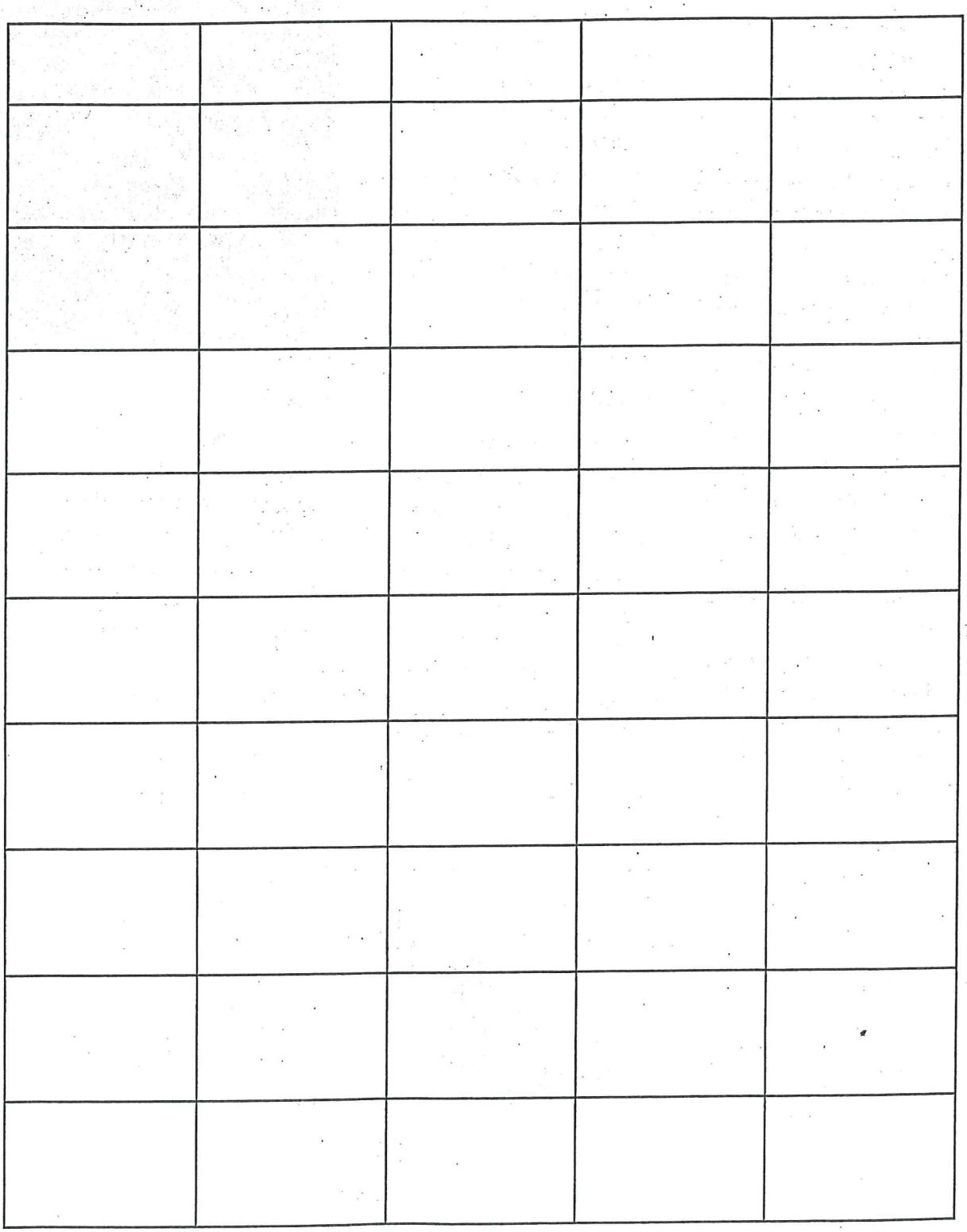


Dance

Worker bees spend a lot of time looking for food. When they find some nectar, they fly back to the hive to tell the other workers. They have a special way of telling the other workers where the nectar is. They do a kind of dance in a figure of eight. The dance was discovered by a scientist named Karl von Frisch. He called it the "waggle dance."

Animals don't communicate the way people do, but they can still find each other, frighten off predators, and tell other animals about food. They do this in lots of different ways—often without making a sound!

Animal Messages



Stopping A Toppling Tower

by Mary Kay Carson

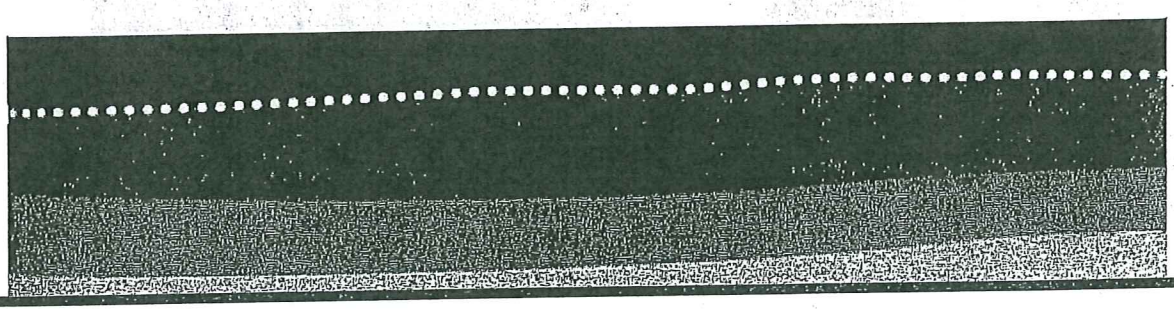
Every year, the Leaning Tower of Pisa (PEA-zuh) tilts a fraction of an inch farther! If it tilts too far, this famous Italian building could topple or crash to the ground. Scientists had to find a way to save the tower—without making it a "Straight Tower of Pisa."

It's amazing but true that the tower has been tilted ever since it was built more than 900 years ago. The problem is that each year it leans a tiny bit more. In 1990 **engineers** said that the tower was in danger of toppling. The building was no longer safe. It had to be closed to visitors.

For years, engineers and scientists had been thinking about how to stop the tower from falling over. After considering many ideas, they agreed on a possible solution. In 1998, engineers started work to save the **landmark**.

The Problem

1. The tower weighs 14,000 tons. Wind pushes from the sides. Sometimes there are small earthquakes that rattle the building. These forces weaken the slanted tower.
2. Tall, skinny shapes are hard to balance. A skinny tower has a small **foundation**. That makes it easy for it to tilt too far to one side. Then—TIMBER!
3. The tower is built on soft sand and clay. The heavy building squishes the soft soil beneath it. That makes the tower slowly sink. Why does it lean? The soil is softest under the tower's low side, so that side sinks more.
4. As the tower leans, more of its weight rests on the lower side. That **compression**, or squeezing, could cause the tower to tip over.



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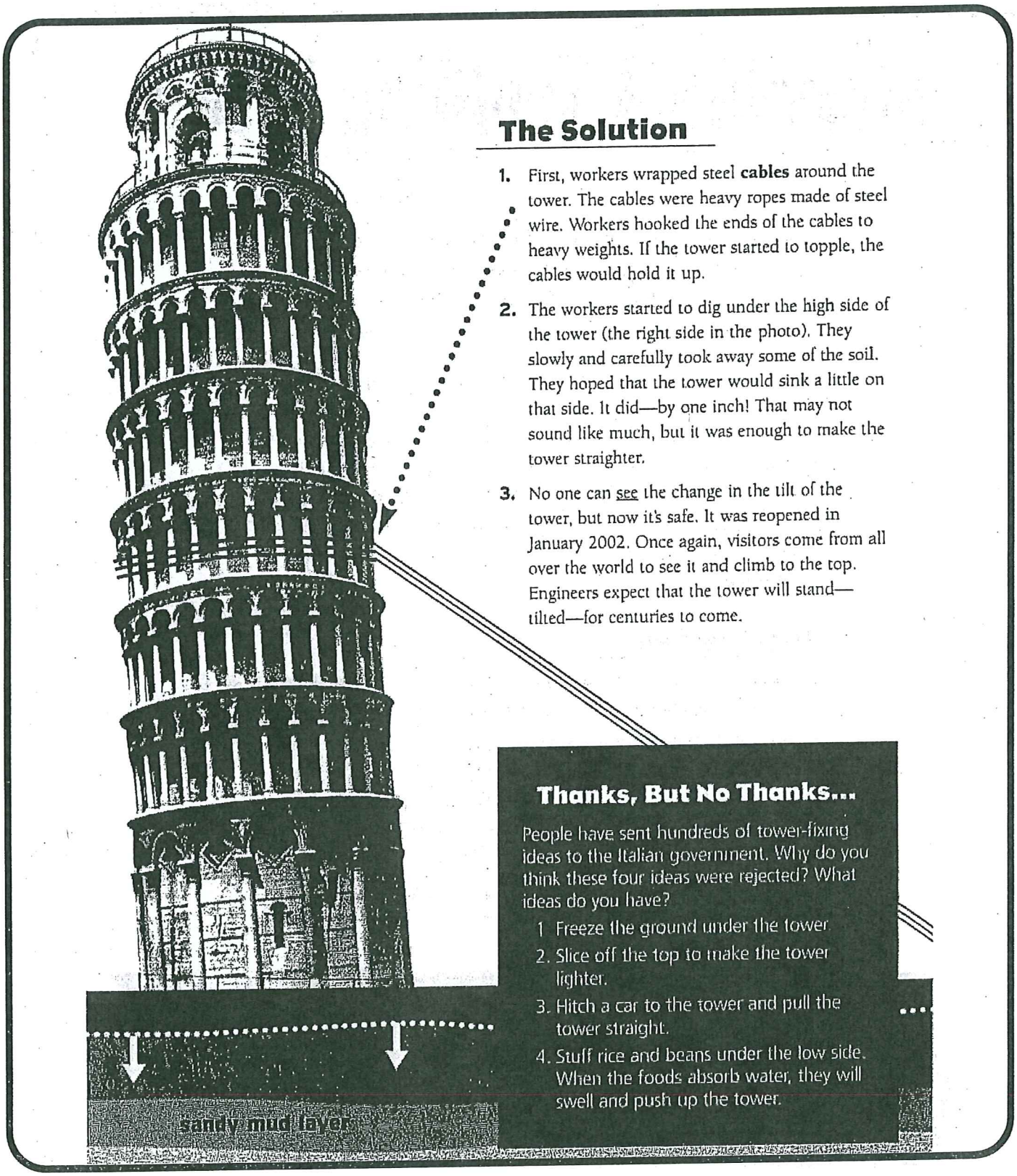
SCHOLASTIC

http://www.scholastic.com



From *Teaching Students to Read Nonfiction*

Get Fit!

by Paul Coco

SNACK TIME! Kids reach for pieces of fruit. Fruit is a great snack and more healthy than chips or candy.

Stay healthy and have fun by exercising often and eating the right foods

Think about what you do on an average day. When you're in the cafeteria, do you reach for ice cream or an apple? Do you plop in front of the TV after school or ride a bike outside?

Today, many American kids aren't eating healthy foods or spending enough time running, jumping, or even walking. Instead, they're munching on sugary snacks like chocolate and soda, while sitting inside to play video games. Does this sound like your daily routine?

Recent studies show that about 9 million young Americans between the ages of 6 and 19 are overweight. That is about one out of every six kids in the United States. Weight gain caused by a poor diet and lack of exercise can lead to serious health problems, such as heart disease and **diabetes**, when you get older.

Fortunately, you can stay in shape and have fun just by moving your body and eating the right foods. So, head outside to exercise and keep your body healthy.

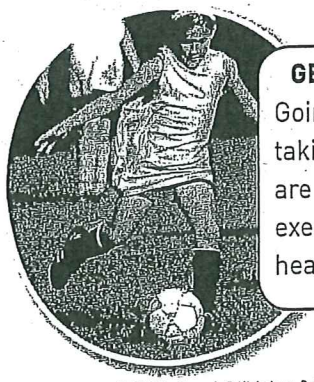
A Big Problem

What makes people overweight? Weight gain can occur when the body takes in more calories from food and drinks than it uses up through physical activity. The more you move around, the more calories you burn off.

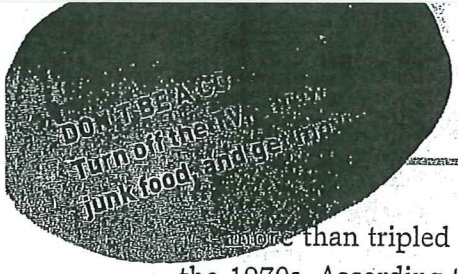
Unfortunately, many kids today aren't moving. Instead, they're using computers, watching TV, and playing video games. A recent study by the U.S. Department of Health and Human Services found that the percentage of kids ages 6 to 11 who are seriously overweight has

Fitness Fun! Some health experts recommend that kids get an hour of exercise each day, or on most days. It's easy to get moving. Once you get hooked on exercising, you'll have more energy, build muscle, and make your heart stronger. Here are some fun ways to get active:

- Ride a bike or go for a jog.
- Get involved in a game of tennis, volleyball, or kickball.
- Jump rope.
- Dance along to your favorite music.
- Take a long walk with a friend or relative.
- Hit the pool for a swim.
- No matter what exercise you do, experts agree that it's best to set up a fitness plan. Keep track of how often you do an activity so you can see how much progress you've made and reward yourself for your hard work.



GET MOVING! Going for a run or taking a long walk are great ways to exercise and stay healthy.



more than tripled since the 1970s. According to the U.S. **Surgeon General**, one in seven American kids does not regularly participate in any physical activity.

To fight the problem, the U.S. government recently issued new guidelines for healthy living. The guidelines recommend that all kids—not just those who are overweight—should get one hour of exercise on most days *(see* Fitness Fun!*)*.

Getting active helps you to be healthy, but you also need to eat the right foods. Eating smart means that you feed your body more fruits, vegetables, dairy, and whole grains *(see sidebar, far right)*.

Be Good to Your Body

Today, families, schools, and health experts are working hard to keep kids fit. Public schools in Maryland have cracked down on fattening food. Ice cream has been taken out of some school cafeterias in that state, while snack carts sell only foods low in fat and sugar. Schools in other states such as Texas and California have removed sugary soda and junk food from cafeterias and vending machines.

Kids are also getting into the workout action. Many schools across the country are creating physical fitness programs to get kids excited about exercise. In January, students in Medina, Tennessee, began a 90-day fitness program called Power 90. As part of the program, students do jumping jacks, sit-ups, and yoga in their physical education classes.

Are these programs helping kids get fit? Medina student Madison Morris, 12, believes they are. "You can definitely feel the exercises working on your body," Madison says. "They make me feel better about myself."

Back to You

March is National Nutrition Month, a good time to think about eating healthy foods.

Make a list of the foods you eat that are high in fat and sugar. Then make another list of healthy foods you could eat instead. Try to eat more items from the list of healthy foods.

word wise

diabetes: (dye-uh-BEE-teez) noun. A disease in which there is too much sugar in the blood.

Surgeon General: (SUR-juhn JEN-ur-uhl) noun. The nation's top doctor.

EAT SMART!

Follow some of the tips below to stay healthy.

FRUITS & VEGETABLES Oranges, bananas, and carrots make great snacks and are packed with vitamins and minerals. Experts suggest that kids like you eat five servings of fruits and vegetables each day.

POWERFUL PROTEIN Meats, chicken, turkey, fish, eggs, and nuts are super sources of protein. Protein builds body tissue and helps protect you from diseases.

DYNAMITE DAIRY Milk, yogurt, and cheese contain vitamin D and calcium, which helps build strong bones and muscles. Drinking skim or 1 percent milk is a healthy way to get your protein.

GREAT GRAINS Bread, pasta, cereal, and rice fuel the body with energy to help keep you going during exercise.

HEALTHY CHOICES Skip soda and drink water instead. Ask for a salad or baked potato instead of french fries.

COLORFUL Eat fruits and veggies that are different colors so your body absorbs nutrients from each color group.

Get Fit

Problem	Solution
Children are eating more calories than they are losing.	

Koala Chaos

by Mona Chiang

KOALAS LIVING ON AN AUSTRALIAN ISLAND ARE AT THE HEART OF A HEATED DEBATE

MUNCH MUNCH Koalas eat eucalyptus tree leaves, which have little nutritional value. That's why they sleep up to 20 hours a day!

Each year, thousands of tourists flock to scenic Kangaroo Island in Australia. For many, the trip's highlight is spotting a fuzzy koala. But for many of the 4,000 residents of Kangaroo Island, as well as conservationists, these furry creatures are far from cute. They are giant pests.

A plan to help rebuild Australia's koala population by bringing the animals to Kangaroo Island has been too successful, some conservationists say. They say that the island's 27,000 koalas are more than it can handle. The koalas are eating so many eucalyptus tree leaves that the trees are dying, which puts the island's **ecosystem** in danger, conservationists argue. Because of this, many scientists and residents are calling for a massive koala cull, or controlled killing.

But this idea has some people, including the Australian Koala Foundation (AKF), protesting. AKF says poor land management—not koalas—is to blame for the island's ecosystem problems. Also, many people don't want the cuddly creatures harmed.

How did the koala, an animal that does little besides eat and sleep, wind up at the center of this tug-of-war?

Moving Koalas

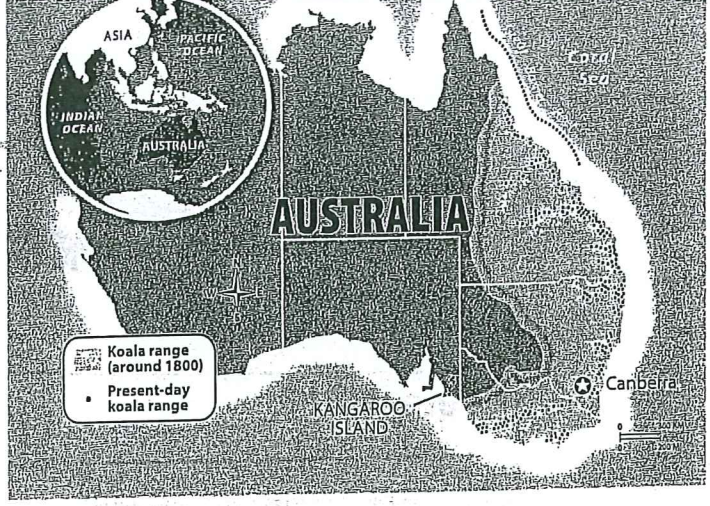
Koalas are marsupials, a group of animals in which the females carry and nurse their young in pouches. The cuddly creatures once **thrived** all over Australia *(see map)*. But when European settlers arrived in the late 1700s, they hunted millions of the animals for their fluffy fur. They also destroyed as much as 80 percent of the koalas' forest habitat for farmland. Due to limited living spaces and its sole food source—eucalyptus tree leaves—drastically reduced, the koala population tumbled.

"People were concerned that the koalas would go extinct," says David Paton, a biologist at the University of Adelaide in Australia.

So during the 1920s, scientists introduced 18 koalas to Kangaroo Island. The population did not just thrive there, it exploded.

Picky Eaters

Such a koala boom may not seem like bad news. But



koalas have big appetites. A koala must eat approximately 1,000 eucalyptus leaves each day to survive. When koalas keep stripping a eucalyptus tree branch of its leaves, the branch dies. If too many branches die, the tree dies. "Koalas can kill a tree bit by bit," says Paton. When that happens, all the animals that depend on the tree for survival—including the koalas—suffer.

Losing eucalyptus trees also affects the island's farming industry. Tree roots deep in the land keep soil in place. Without eucalyptus trees, rain washes away soil, reducing the quality of farmable land.

But not everyone believes that koalas are to blame for tree and soil loss on Kangaroo Island. Deborah Tabart, who runs AKF, says industries, including farming, are the culprits because they have cleared large areas of eucalyptus forests. Tabart says better land management will help repair the ecosystem and sustain koalas and other island species.

Chaos Control

Tabart and the AKF say Australia's way of dealing with the koalas is inhumane.

The government has relocated hundreds of island koalas to parts of mainland Australia. However, koalas get stressed easily, so they don't adapt well to new surroundings and often get sick. In addition, the government recently announced a plan to perform medical operations on 8,000 island koalas. The surgeries would prevent the koalas from having babies.

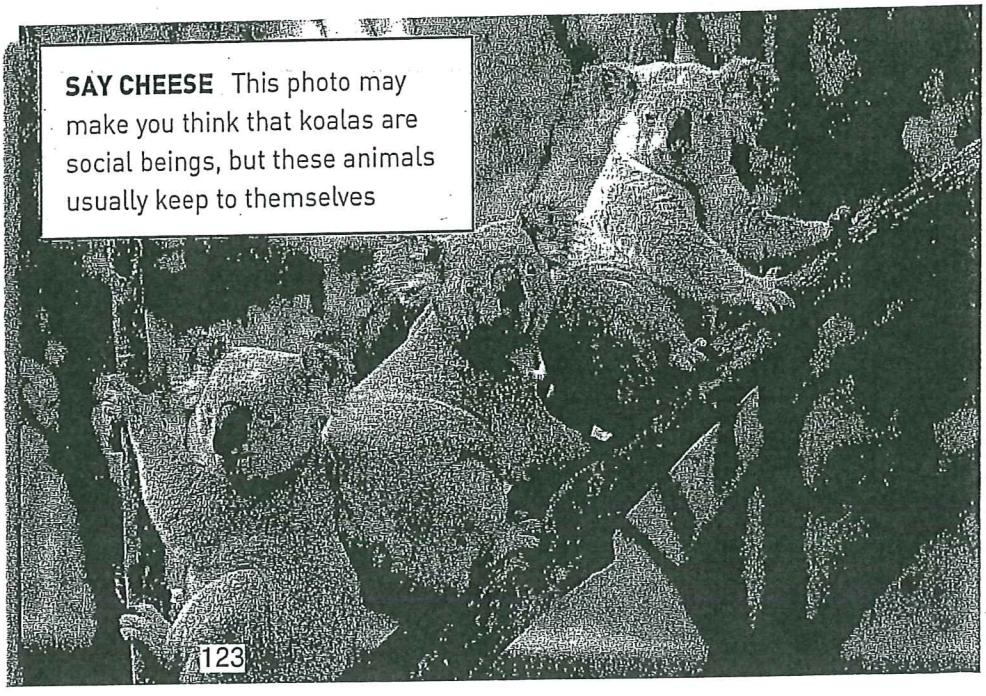
Paton believes this plan won't lead to a major reduction in the koala population. He believes that the most effective way to control Kangaroo Island's koala population is to cull 20,000 of the animals. But that will be hard to do. Koalas are protected by the law. The Australian government has struck down proposals to allow a koala cull, in part out of concern that a cull would create negative images that would drive away the tourists Australia depends on.

In the meantime, Paton and other scientists estimate that the koala population on Kangaroo Island will double within five years. Paton fears that without a sound solution soon, "the koalas may eat their way out of a home."

word wise

ecosystem: (ee-koh-SISS-tuhm) noun. A community of animals and plants interacting with their environment

thrive: (thrive) verb. To do well and flourish



SAY CHEESE This photo may make you think that koalas are social beings, but these animals usually keep to themselves

Koala Chaos

Problem	Solution
Residents of Kangaroo Island say 27,000 Koalas have become a giant nuisance.	

Gorillas in Crisis

By Kathleen Donovan-Snavely

What will you have for supper tonight? Hotdogs? Pizza? Gorilla? It may surprise you to know that these "gentle creatures of the jungle" regularly appear as the featured entrée at many a meal served near the African rainforest. That isn't the only problem that haunts gorillas lately. The combined threats posed by hunters, loggers, and disease are eliminating large numbers of gorillas in central and West Africa. The future of gorillas in the wild is at risk.

1.
Gorilla meat is a dietary staple for nearly 12 million people who live near the rainforests of central and West Africa. Some Africans prefer bush meat, such as gorilla, because it provides an economical source of daily protein. Poor families without the means to purchase food at the market travel a short distance to the rainforest to get bush meat. Their only expense is the cost of ammunition and the fee to rent a gun. Some of these same families raise chickens and goats, but do not eat them. Instead, they sell the animals for the cash they need for buying supplies. Africa's population is increasing rapidly, along with its demand for bush meat. If nothing changes, primatologists fear that gorillas may become *extinct* in the next thirty years.

2.
Moving away from one's childhood home sometimes leaves us longing for familiar places and traditions. Naturally, the African families who move away from their original rainforest homes struggle with these feelings of sadness and displacement. Now living in villages and cities, they eat bush meat to feel closer to the past and to their old way of life. For them, gorilla feeds the body and the soul as well. This custom brings little comfort to endangered gorillas, whose females produce only one offspring every five to seven years. It is easy to see why gorillas are being killed faster than they can reproduce.

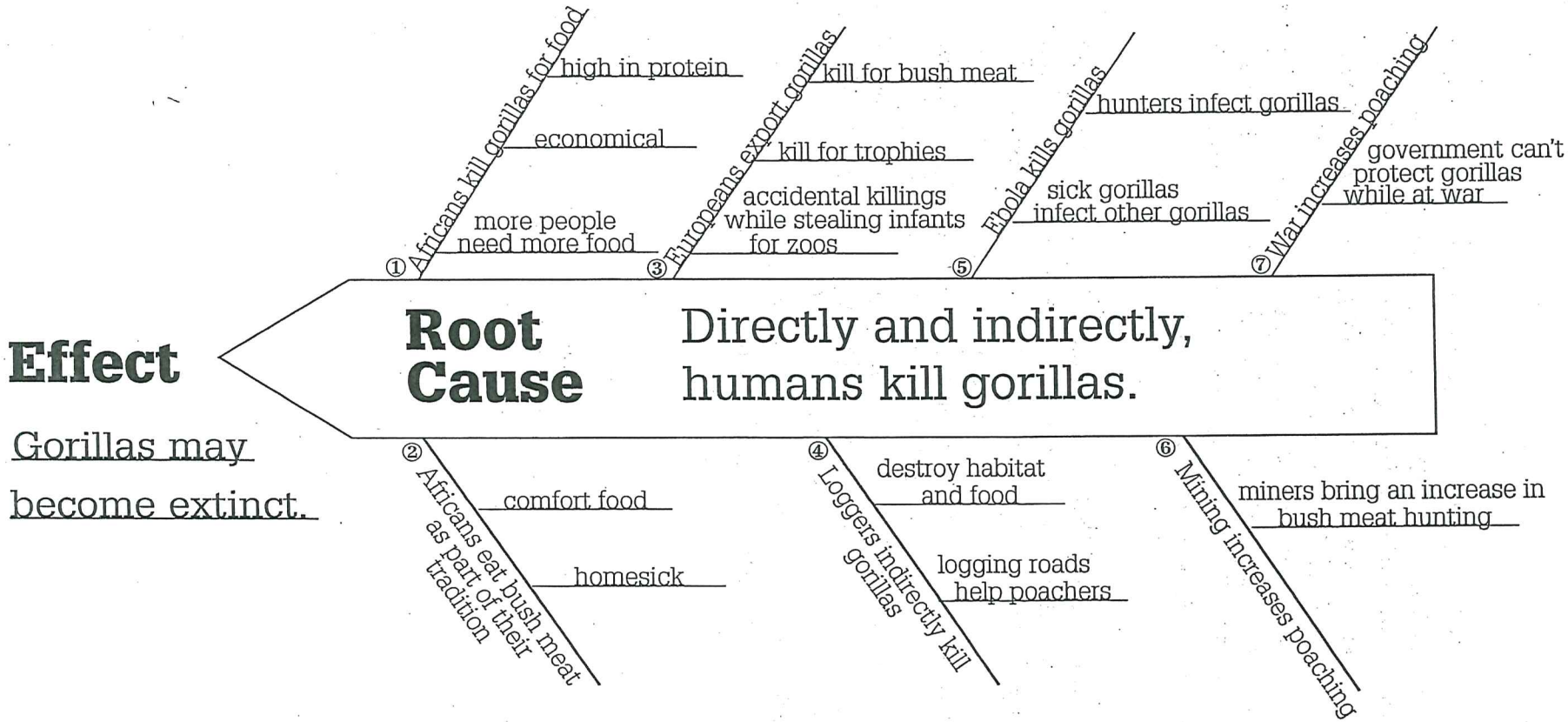
3.
While Africans plunder the gorilla population, they are not the only ones. Over the years, their European neighbors have developed a taste for exotic bush meat as a status symbol. Trophy hunters value gorillas for their collectable heads and hands. Finally, some hunters persist in the decades-long practice of trapping young gorillas to sell to zoos and private citizens across the world. When mature members of the gorilla troop try to defend an infant, hunters shoot to preserve their prize. Entire troops of gorillas have perished this way. The international gorilla trade continues even though it is illegal, since the laws are nearly impossible to enforce. Gorilla populations continue to decline.

4.
You have heard the slogan, "Save the rainforest," with good reason. Conservationists know that if the forest is cut down, the habitat needed to sustain countless tropical plants and animals will no longer exist. Already the loggers who harvest tropical trees have eliminated some of the bush where gorillas live, causing crowding that leads to the spread of disease. Furthermore, logging has depleted the vegetation on which gorillas depend for their daily food. Up to 70 pounds of plants and leaves are required daily for a mature gorilla's diet. Finally, the logging roads that facilitate removal of harvested trees also enable poachers efficiently to remove freshly killed gorillas from the bush to the market for sale. Loggers are endangering the rainforest, along with its inhabitants.

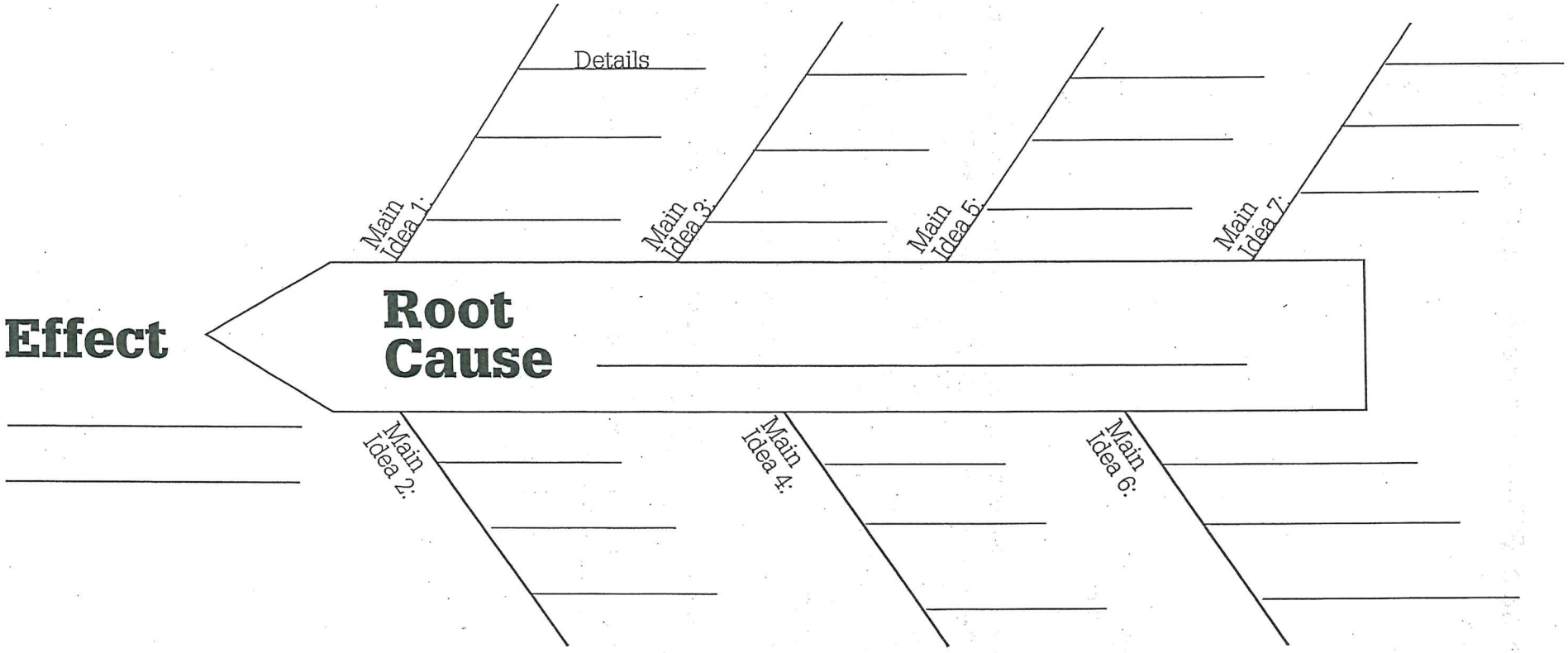
5.
Most recently, a disease called Ebola fever has joined forces with hunters and loggers to further threaten the existence of gorillas. Biologists suspect that the virus was first spread across species with the help of tropical insects. Whatever its origins, we do know that the virus is now carried from gorillas to humans in a deadly cycle. Hunters contract the headache and fever when they kill and eat infected bush meat. As the disease runs its course, internal bleeding leads to death. Meanwhile, an unsuspecting hunter who seems only a bit "under the weather" may return to the bush, effectively sickening an entire troop of gorillas. Ninety percent of all gorillas that get Ebola fever die. Healthy gorillas that come into contact with diseased bodies in the bush get the disease as well. Scientists are currently researching treatments for Ebola. Since human and gorilla DNA are so similar, it is possible that a vaccine for humans will eventually help gorillas as well. Meanwhile, Ebola continues to thrive.

People once thought that gorillas were fierce, threatening animals. Today, scientists know that gorillas live peacefully in family groups. Their only enemies in the bush are people. Watch these "gentle giants of the jungle" now, while you can. Unless we work together to make sure that gorillas survive, they may disappear forever.

Sample Fishbone Map

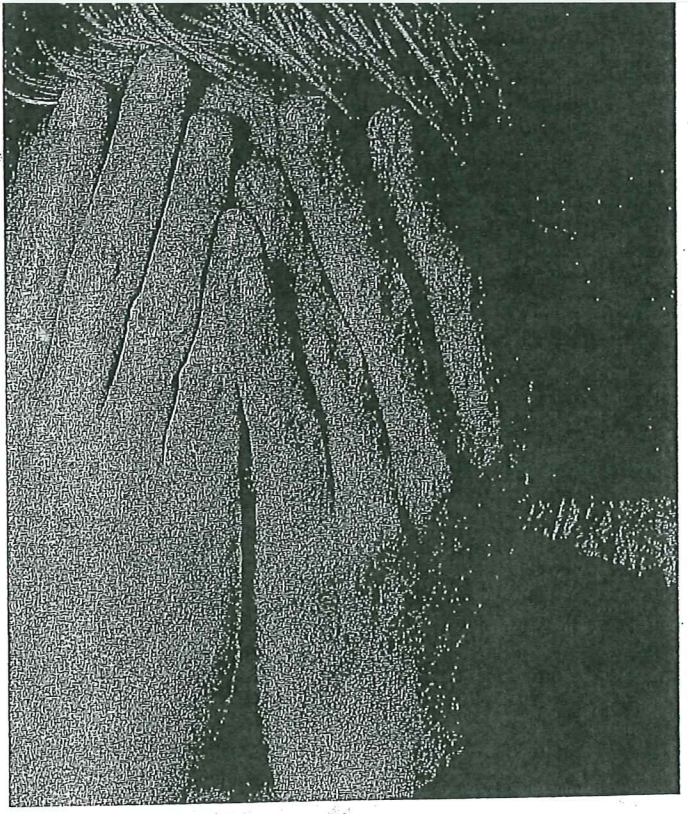


Fishbone Map Template



Why Do I Blush?

by Julia Wall



Don't you just hate it when you feel awkward and your face turns red? It's as though the whole world knows exactly how you're feeling—without you telling them!

Blushing usually happens when you are around other people because a group situation makes you more sensitive to what's being said or done. Sometimes embarrassment causes the blushing. Sometimes not telling the truth can make you blush—which can be very awkward because the person you are talking to will have a pretty good idea that you're not telling things the way they really are!

Blushing is connected to feelings, but what's actually happening to you, physically, when your face does the horrible "red" thing? For a start, your brain signals to your body that something is wrong. In response, your heart beats faster, you breathe more quickly, and you start to overheat.

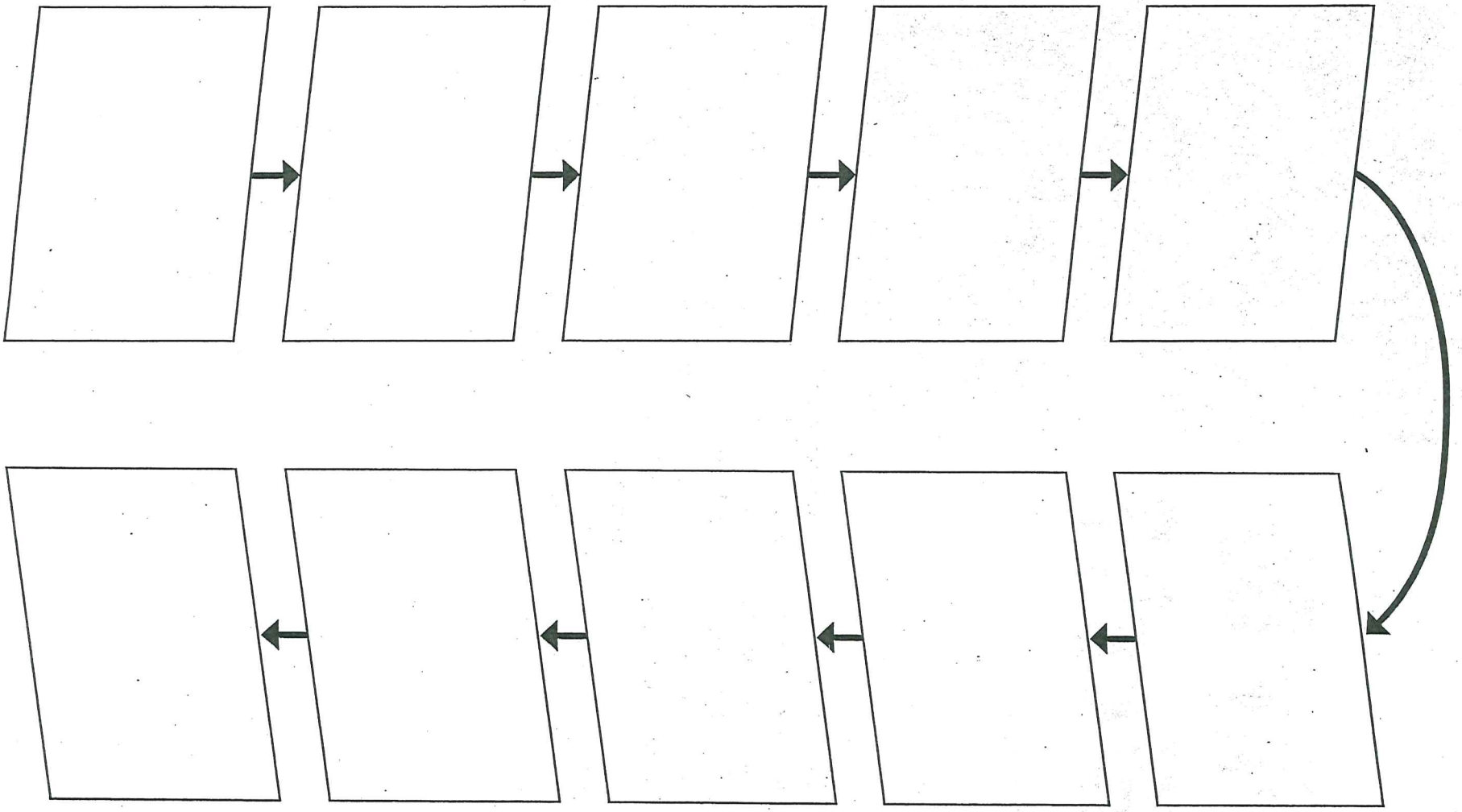
These reactions are signs that your body is preparing itself to either fight or run away from a situation. (This is how our ancestors often reacted a long time ago, for example, when they came face to face with a large woolly mammoth!)

To help cool you down from your "fight or flight" reaction, your blood carries your body's extra heat into tiny vessels called capillaries. The capillaries release the heat into nearby tissue. Because blood is red and the capillaries in your face are very near the surface of your skin, this heat-release makes your face appear red, too.

The situations you experience are much less extreme than those our ancestors faced, so while you deal with the "something wrong" feeling and the fact that you're blushing, you usually just keep behaving normally. Eventually, your face returns to its normal color.

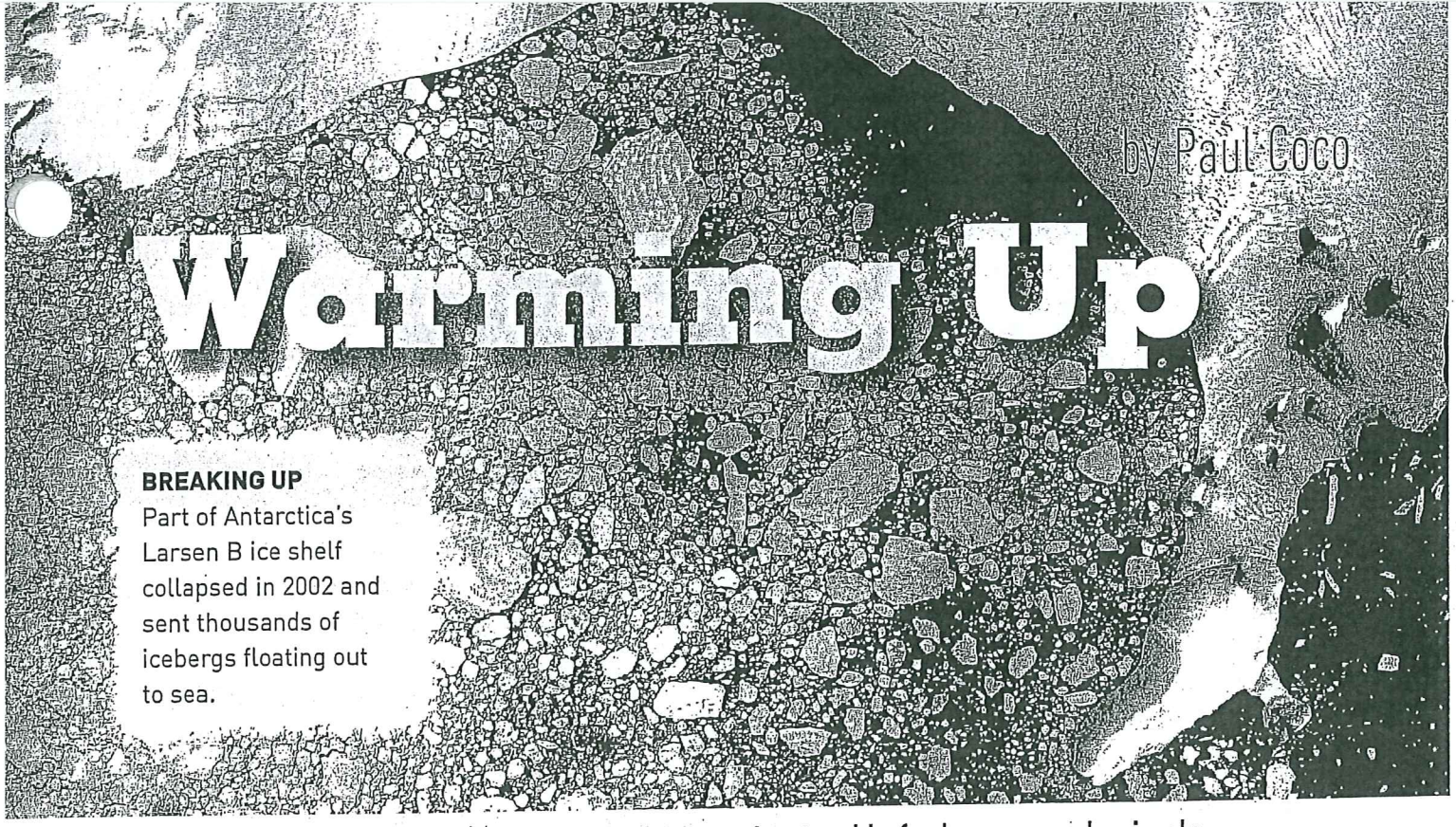
Sounds simple, doesn't it? If only it were as simple not to blush! Next time you feel hot and bothered because of something that embarrasses you, think about all the capillaries in your face that are working to cool you down. This might help take your mind off whatever it is you're blushing about!

Why Do I Blush?



Warming Up

by Paul Coco



BREAKING UP Part of Antarctica's Larsen B ice shelf collapsed in 2002 and sent thousands of icebergs floating out to sea.

Melting ice in the world's coldest regions is causing trouble for humans and animals

Many animals like penguins and polar bears need to live where it's cold and icy all year. But what will happen if those places get too warm?

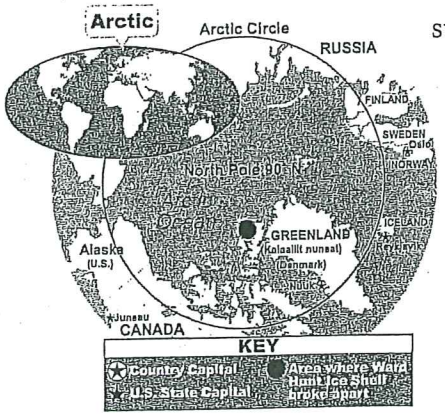
It's impossible to predict the future, but recent studies show that temperatures are rising in two of the world's coldest regions—the Arctic and Antarctica. The Arctic is the area around the North Pole *(see map)*, and Antarctica surrounds the South Pole. Warmer weather is causing ice to melt more rapidly than before. That's bad news for the animals that live there.

Although not everyone agrees, some scientists blame the problem on global warming—a gradual rise in the Earth's temperature.

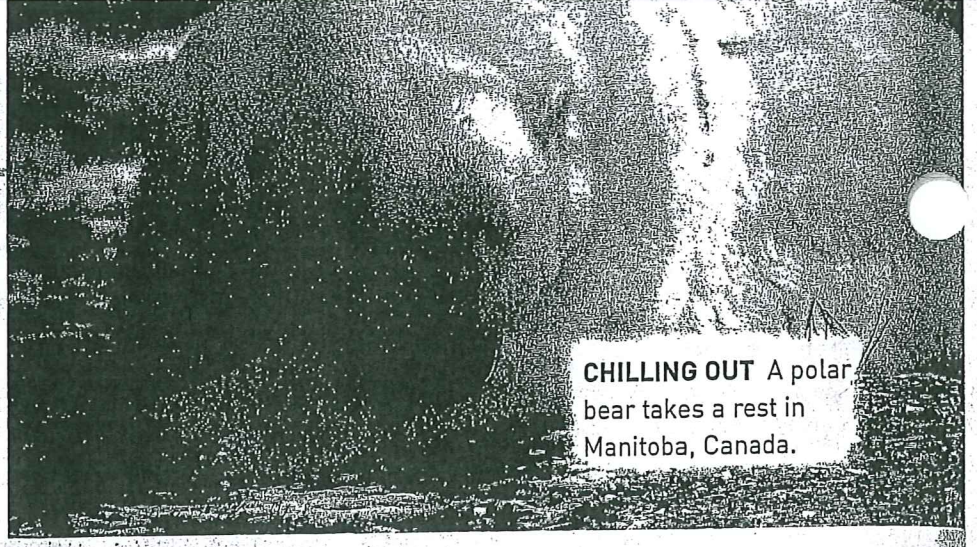
Keeping Cool

Ice is important to the animals and people who live in the polar regions. Polar bears walk on the ice to hunt for food, like seals and fish. Seals come from the water to rest on the ice and to give birth. The Arctic's **indigenous** people hunt and live on the ice.

Now life in the Arctic is getting more difficult. According to a new report called the Arctic Climate Impact Assessment (ACIA), Arctic temperatures have risen by up to seven degrees over the past 50 years. The warm-up has melted an area of ice about the size of Texas and Arizona combined. Some scientists believe the Arctic, which has ice year-round, could be ice free during the summers in about 100 years.



POLAR REGION This map shows the Arctic, the area around the North Pole. In 2002, the Ward Hunt Ice Shelf, the largest in the Arctic, broke in two.



CHILLING OUT A polar bear takes a rest in Manitoba, Canada.

The report says that polar bears are unlikely to survive as a species if most of the summer sea ice is lost. If the ice disappears, the number of seals will decrease and the bears will have no place to hunt. As a result, many polar bears will starve.

The melting Arctic ice could also affect areas far away. If enough glaciers, which rest on land, melt into the water, global sea levels could rise by about four inches in less than 100 years. Rising sea levels could cover areas of land.

On the opposite side of the world, sea ice in Antarctica is also vanishing: 20 percent of it has melted over the last 50 years. On the Antarctic Peninsula, glaciers are thinning and ice shelves, like the Larsen B, are breaking apart.

Warmer weather is forcing penguins to waddle closer to the South Pole, where it is colder. Penguins need sheets of ice to survive. They raise their young on the ice and that is where they find the sea life that they eat.

Global Problem

Although natural causes can affect Earth's temperatures, some scientists say human activity may be to blame for global warming. Humans use fossil fuels such as oil, coal, and natural gas for heat and power. Burning those fuels releases carbon dioxide, a natural gas, into the air. Too much carbon dioxide traps heat in the Earth's atmosphere, causing temperatures to rise *(see diagram, below)*.

According to geologist Richie Williams, the amount of carbon dioxide released into the atmosphere is rising every year. "No scientist can say for sure what's going to happen next," says Williams, "[but] human activity is accelerating the melt sooner than it would occur naturally."

Although not everyone agrees about global warming and its causes, it's important to find out what can be done to keep the polar bears, penguins, and other creatures happy and healthy on the ice.

Back to You

You can help reduce greenhouse gases in the air. Follow the tips below.

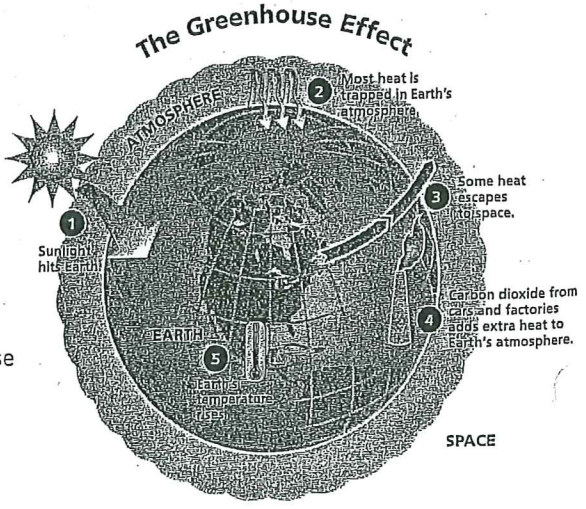
- Turn off lights, computers, televisions when they're not in use.
- In warm weather, ride your bike or walk if you're not going a far distance.

word wise

indigenous: (in-DIJ-uh-nuhss) adjective: Native to a particular environment or region.

atmosphere: (AT-muhss-fihr) noun: The mixture of gases that surrounds a planet.

GREENHOUSE EFFECT The Earth's atmosphere, or the gases surrounding the planet, holds heat in naturally. Too many gases, like carbon dioxide, can cause it to trap too much heat.



Warming Up