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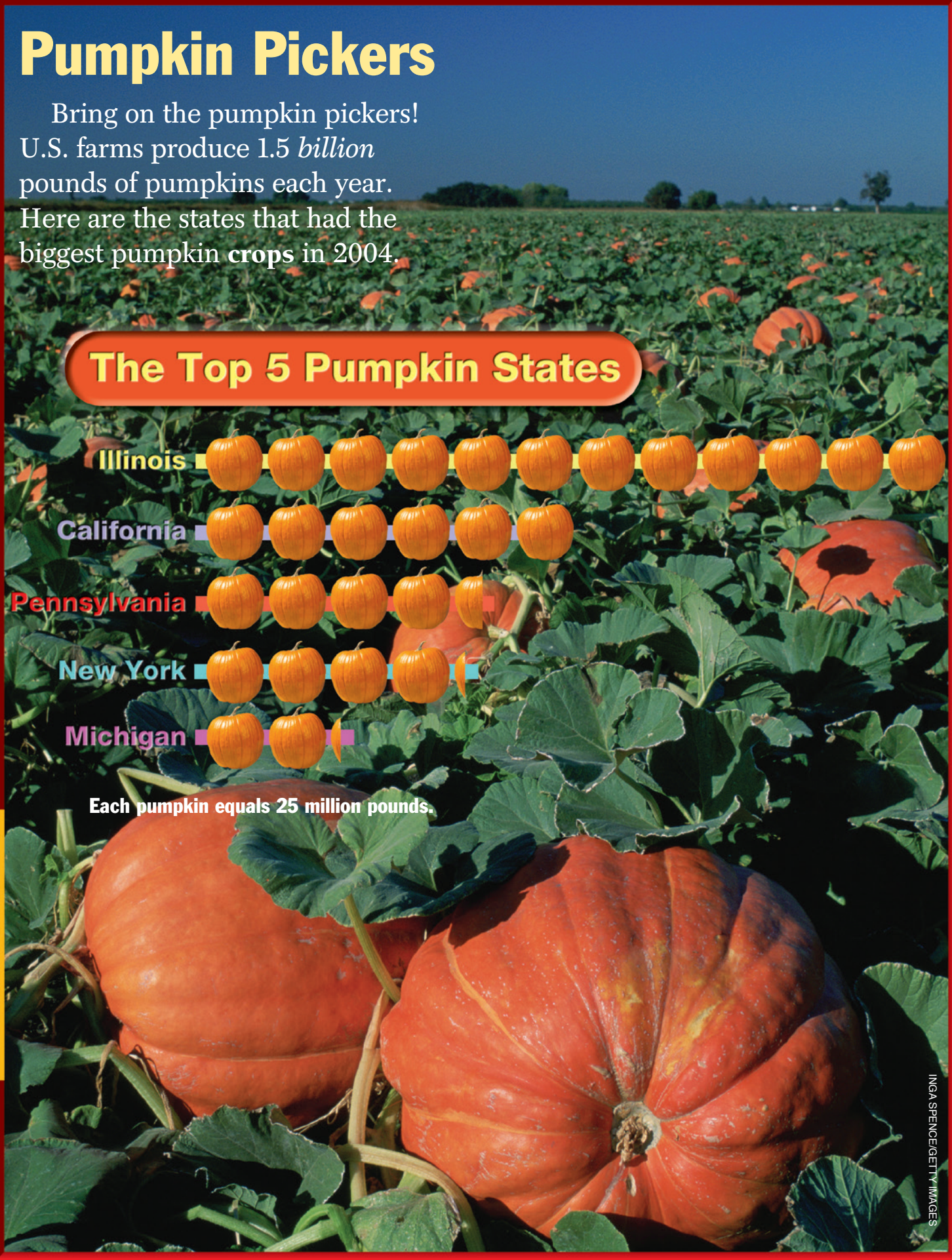
Pumpkin Pickers

Bring on the pumpkin pickers! U.S. farms produce 1.5 *billion* pounds of pumpkins each year. Here are the states that had the biggest pumpkin **crops** in 2004.



INGA SPENCE/GETTY IMAGES

Remembering Heroes

Last weekend, my grandparents took me on a trip to Washington, D.C. We visited the new **memorial** to the soldiers of World War II. The United States was in the war from 1941 until 1945.

The memorial is in the shape of a circle. In the center are a pool and two fountains. A curved wall is covered with gold stars. The stars stand for the soldiers who died in the war.

My great-grandfather was in World War II. He fought in Africa and Italy. So both my grandparents were **proud** when they saw the memorial. I felt proud, too. Everyone should visit it.

PHOTODISC/GETTY IMAGES

More than 400,000 American soldiers died in World War II. This photo was taken in Africa in 1943.

CORBIS

GERALD HERBERT/AP PHOTO

Today's visitors to the World War II Memorial remember the brave soldiers who fought for their country some 60 years ago.

A Day in Rio

Arthur Barbosa de Asuncao (ah-soon-*sow*) is 8 years old and lives with his parents in Rio de Janeiro. Rio is a city in Brazil, the biggest country in South America. How does his day compare to yours?

6:45 a.m. Arthur's mom usually wakes him up and makes him breakfast. He has milk, bread and butter or biscuits and jam, juice, and coffee.

7:15 a.m. School begins. Arthur studies Portuguese, which is what people speak in Brazil. He also studies math, science, and social studies. On Fridays, he has gym. He especially likes to play soccer.

Noon School is over for the day! After school, Arthur usually goes to the beach to play soccer with his friends. He lives just a couple of blocks from one of Rio's beautiful beaches.

1:00 p.m. Arthur eats lunch when he gets home from the beach. Sometimes he eats at school because his mom works in the cafeteria. He loves sucos (soo-koosh), which means "juices." His favorite comes from acerola (ah-she-*roh*-la), a tropical fruit from the Amazon. The Amazon is the world's second longest river. Almost all of it is in Brazil.

2:00 p.m. to 6:00 p.m. Arthur hangs out with his friends or his dad. He likes to swim at the beach. He also likes to go for bike rides with his father.

8:00 p.m. Homework time. His mom and dad help him, especially with math.

9:00 p.m. The family eats dinner. Brazilians eat late! Sometimes they have rice and beans and couve (*koh*-veh), which are chopped greens. Arthur's favorite dessert is passion fruit pudding.

10:00 p.m. Bedtime. Before bed, Arthur watches TV—soccer if it's on, or cartoons.

JOHN MAIER, JR.

JOHN MAIER, JR.

Far left: Arthur feeds his dog.

Near left: Then he heads to the beach to join his friends in a soccer match.

Mrs. Gerson's Home Run

It all started when Big Mike hit a home run into Mrs. Gerson's front yard. The next thing they knew, Mrs. Gerson herself was **ambling** onto the field. She was wearing her flowered housecoat and her slippers. She carried the baseball like it was a rotten egg.

"You boys!" she said. "I told you not to hit the ball into my yard!"

"We're sorry, Mrs. Gerson," Nick said. "Could we have it back?"

Mrs. Gerson looked at him. "Yeah, you can have it back," she said. "If you let me hit a home run." With that, she marched to home plate and picked up a bat.

The kids didn't know what to do. Mrs. Gerson stood with her feet on home plate and waved the bat around over her head. She sure was **determined.**

Kevin took the ball to the pitcher's **mound.** Then he tossed it toward home as gently as he could. Mrs. Gerson took a wild swing and somehow caught a piece of it.

"Run!" Big Mike shouted.

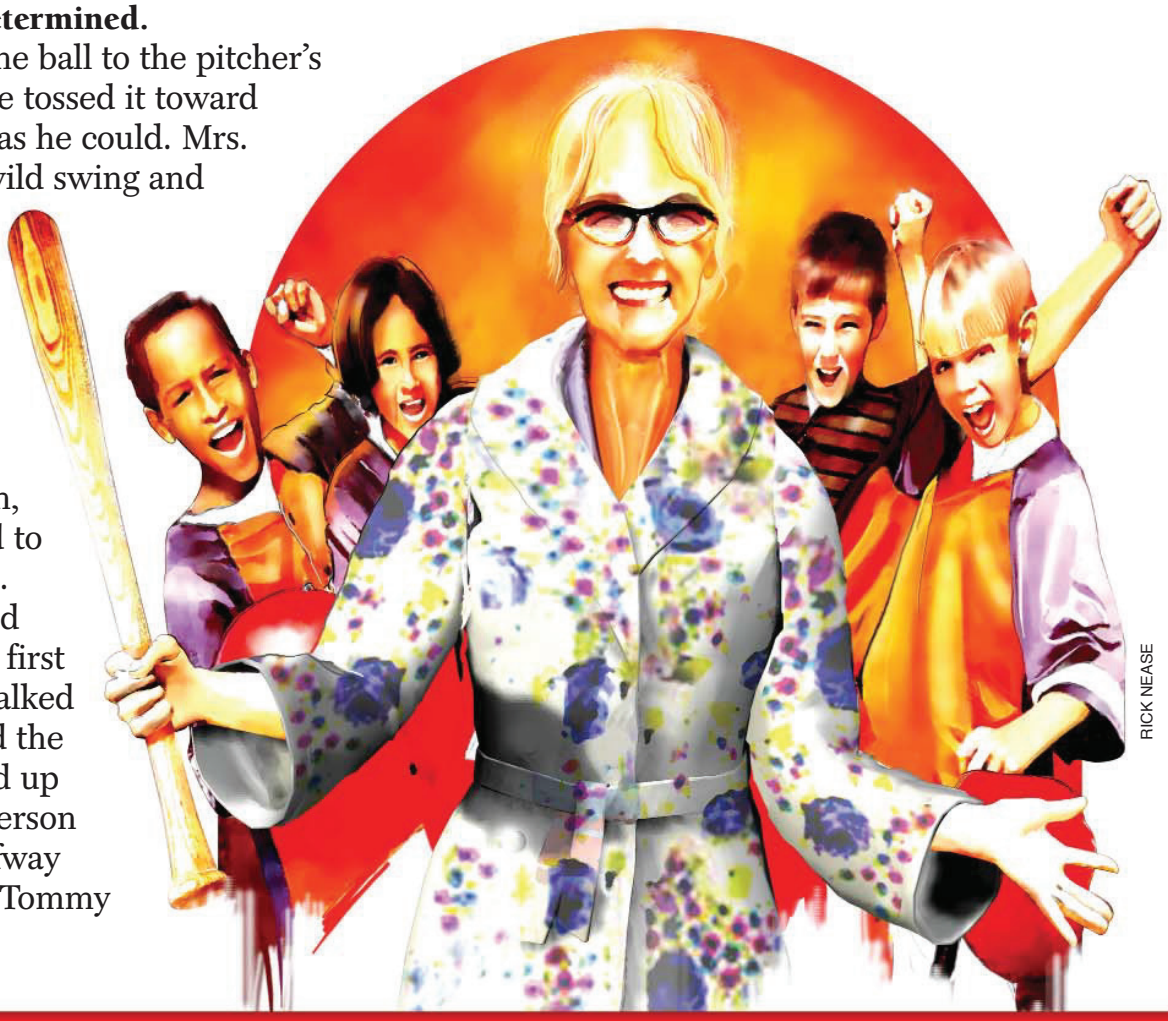
"Run!" Nick shouted.

"Mrs. Gerson, you're supposed to run," Kevin said.

So she started running toward first base. Tommy walked out from behind the plate and picked up the ball. Mrs. Gerson wasn't even halfway toward first. So Tommy threw the ball over the first baseman's head. It rolled into right field. Nick walked as slowly as he could to get it. Meanwhile, Mrs. Gerson reached first.

"That way!" Mike pointed toward second. Nick threw the ball into some bushes. Kevin and Andy pretended to look for it while Mrs. Gerson **trudged** around second, around third and headed home. Finally, Kevin picked up the ball and threw it into the bleachers. Mrs. Gerson crossed home plate and raised her arms in victory. Everyone cheered.

"Thank you," Mrs. Gerson said. Then she began walking back to her house. Then she turned around. "You boys better get to work," she said. "You need a lot of practice."



RICK NEASE

KAREN LOWE

The Lion and the Mouse

From Aesop's Fables, by Aesop

Once, when a lion was asleep, a little mouse began running up and down the lion's back. This soon caused the lion to wake up. He then placed his huge paw upon the mouse and opened his big jaws to swallow him. "Pardon, O King," cried the little mouse. "Forgive me this time—I shall never forget your mercy. Who knows when I may be able to return the favor?" The lion was tickled at the idea of the little mouse helping a huge lion like him someday. So, he lifted up his paw and let him go.

Some time later, the lion got caught in a trap. The hunters who caught the lion desired to take him alive to the king. So, they tied him to a tree while they went in search of a wagon to carry him.

Just then, the little mouse happened to pass by. Seeing the sad situation that the lion was in, the mouse went up to him and gnawed through the ropes that bound the king of the beasts. "Was I not right?" said the little mouse.

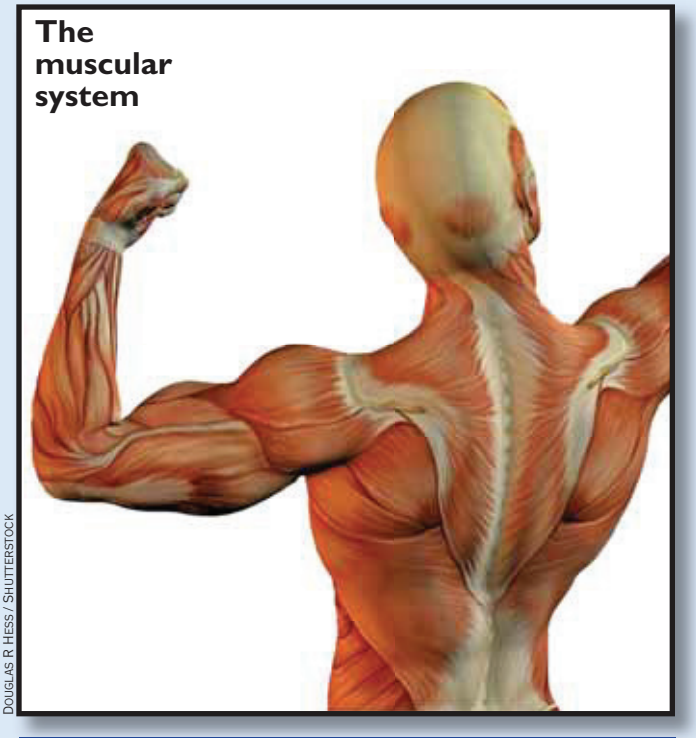
The moral of this fable is: Little friends may prove to be great friends.

LESSON 14

The Skeleton and Muscles

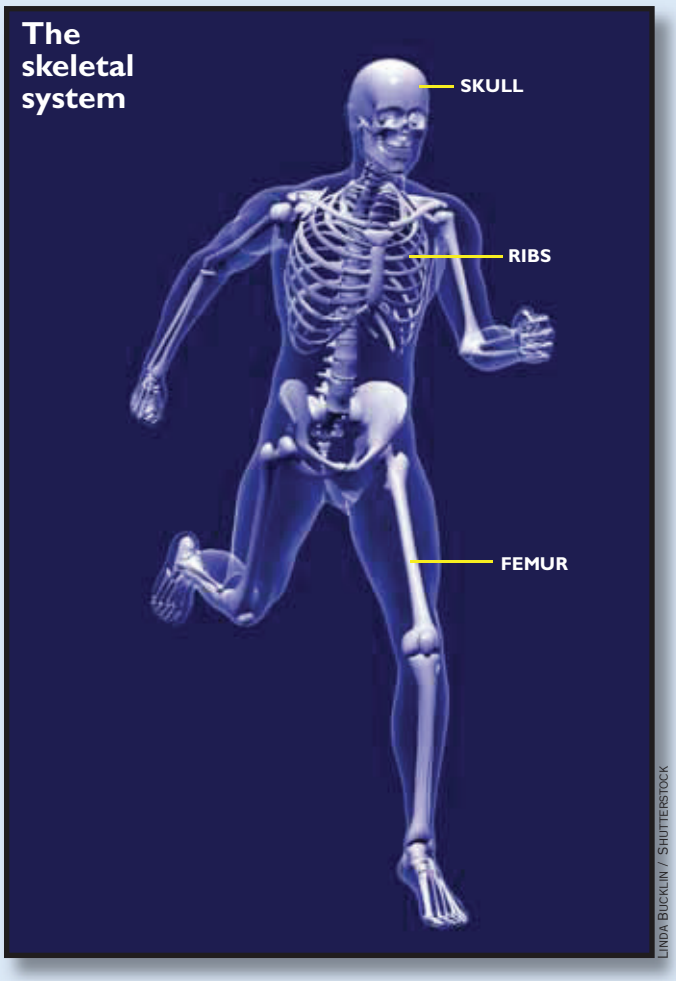
Bones are inside every part of your body. Bones connect together to make your skeleton, and your skeleton gives your size and shape. Each bone in your body has its own important job to do. Some bones, such as your skull, protect you. The skull protects your brain. Some bones, such as your ribs, give you shape. Ribs make the shape of your chest and protect your heart, lungs, stomach, and liver. Some bones, such as your femur, or thigh bone, give you strength to stand.

Bones may be soft on the inside, but they are hard on the outside. They are made from some of the same things you can find in rocks! These things are called *minerals*. Bones are also dry compared to the rest of the body. A large part of your body is made of water, but only a small part of your skeleton is.



DOUGLAS R HESS / SHUTTERSTOCK

Did you know that it takes more muscles to frown than to smile?



LINDA BUCKLIN / SHUTTERSTOCK

All the bones of your skeleton are connected to each other, except for one. The thyroid bone is in your throat, behind your tongue and above your Adam's apple. Muscles hold it there.

What exactly are muscles? They are the parts of the body that move bones and make body organs such as the heart, lungs, and stomach work. Muscles are also in the walls of blood vessels to make blood move.

There are more than 650 different muscles in your body. Your muscles make up a little less than half your total body weight. So, if you weigh 60 pounds, your muscles weigh about 25 pounds.

LESSON 18

Chapter 5: An Eccentric Artist

Diego Rivera

Diego Rivera

LIBRARY OF CONGRESS

DAVID BALL / ALAMY

One of Diego Rivera's colorful wall murals

Someone tells you to paint a picture. "All right," you think. "No problem. I can fill the canvas pretty easily." But what if the picture you are asked to paint is three stories high, two city blocks long, and one block wide? In other words, a total of 17,000 square feet (1,579 sq. m)!

Diego Rivera was one of modern Mexico's most famous painters. When he was asked to paint this huge picture, he did not waver for a minute. In total, Rivera painted 124 frescos, which showed Mexican life, history, and social problems.

A fresco is a painting on wet plaster. Special watercolors are used. Rivera had to plan ahead and sketch what he was going to paint. He used a special plaster. It had to have a certain amount of lime.

Rivera's aides would apply all but the final layer of plaster. Then they used sharp tools to dig the outlines of Rivera's sketches into the plaster. Next, they made a mixture of lime and marble dust. This would be spread over the outline in a thin layer. As soon as this layer was firm—but not dry—Rivera would start to paint.

Every morning, his paints had to be freshly mixed. The pigments had to be ground by hand and mixed on a slab of marble. Rivera would not start working until the paints were perfect. Rivera would paint as long as there was daylight. He could not paint under artificial light. It would change how the colors looked.

Some days, he would say that what he had painted that day was not good enough. Then he would insist that all the plaster be scraped off so he could start again! It took Rivera years to finish, but this mural is thought to be one of the greatest in the world today.

BASKETBALL GREATS

Brian and Tabitha usually agreed on everything. They liked the same favorite food (pizza), the same favorite color (yellow), and the same favorite video game (*Zambu, Warrior Queen*). This made it all the more upsetting for Tabitha to realize how much of a dunderhead Brian could be!

"Michael Jordan? Are you kidding me? Everyone knows that Kobe Bryant is the best basketball player who has ever lived!" she exclaimed.

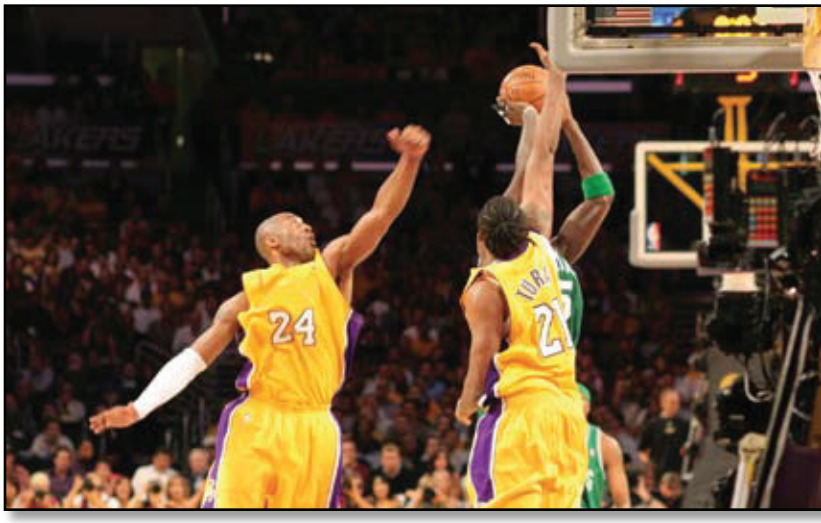
"No way!" countered Brian. "Michael Jordan has six championship rings. And he won Finals MVP every one of those years. No other basketball player can even come close to being that amazing!"

"Michael Jordan was a ball hog," insisted Tabitha. "He was lucky to have a team that helped him get all the way to the finals that many times! Kobe is a team player. He just didn't have the team he needed to get as many rings as MJ!" She was really starting to fume now.

Just then, Tabitha's mother came in from the other room. "You know," she said, "you both have some really good points. But, I wonder if the two of you know about the other great basketball players."

"Who do you mean, Mom?" asked Tabitha.

"Well, did you know that Kareem Abdul-Jabbar scored over 38,000 points in his career? And Wilt Chamberlain once scored 100 points in a single game?" asked Tabitha's mom.



"100 points! Are you serious? I wish I had seen that!" Brian said.

"Yes, it's true. He even averaged over 50 points a game during the 1961–1962 season."

"Wow! I didn't know that," said Tabitha thoughtfully. "Hey, Brian, I have an idea."

"I bet it is the same one I have!" Brian replied, smiling.

"Let's do some research!" they said together and laughed.

A REAL EMERALD CITY

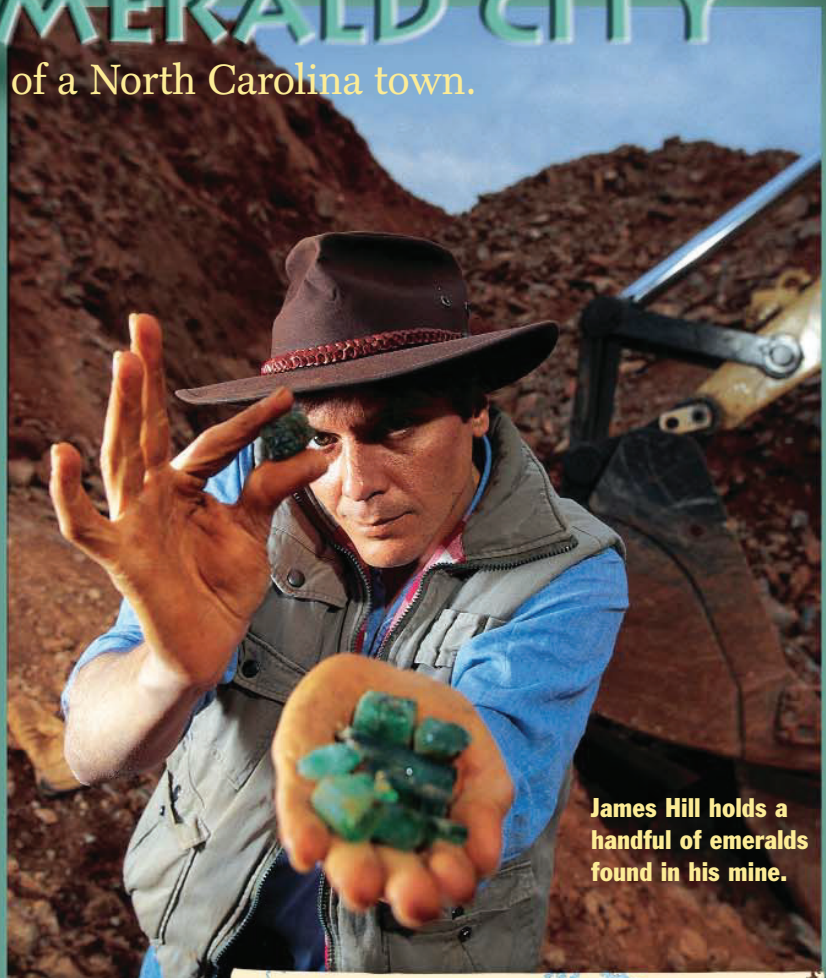
There's treasure in the hills of a North Carolina town.

James Hill, 40, has a special talent. This is how he explains it: "I've always had a **knack** for finding things hidden in the earth." His ability to sniff out buried surprises took root when he was a child visiting his grandmother in Hiddenite, North Carolina. "First I crawled around her front yard," he recalls. "Then I wandered farther away—into the woods, through the creeks and the corn pastures."

In the years since his first explorations, Hill has turned up tons of natural and man-made treasures. But no discovery has been as **spectacular** as the one he made in Hiddenite in November 1998. That's when he found a bed of emeralds—including one that weighs 88 carats, or several ounces! (A carat is a unit of measurement for gemstones.) Emeralds can sell for as much as $30,000 per carat.

Hill was with his 8-year-old son when he found the supersize stone in an **abandoned** mine. "Daddy, did we find a treasure?" he asked. Hill replied, "Son, did we ever!"

Hill had bought the old mine, even though most people thought it was worthless. But Hill had other ideas.



WILL & DENI MCINTYRE

James Hill holds a handful of emeralds found in his mine.

Hiddenite's Hidden Treasures

North Carolina has never been known as a source of emeralds. Most of the green gems come from South America, Africa, or Asia. But Hiddenite, a village of just 450 people in the Brushy Mountains, has been the **site** of other rare finds in the past. Sixty-three kinds of gemstones have been found in the area. In the late 1800s, the inventor Thomas Edison heard about the area's mineral riches. He sent two of his researchers there to look for platinum, which he wanted to try in his light bulbs. They didn't find any of the metal, but one of them, a man named William Hidden, discovered a rare gemstone. Both the town and the stone were named for him.

Hill always suspected that there were other discoveries to be made in Hiddenite. Now he has been proved right. Since 1998, he has found even larger emeralds. In 2003, his company unearthed the largest emerald ever found in North America—more than 1,800 carats! Hill says he's only begun. Which shows it sometimes pays to dig in the dirt.

Truth Sleuth

When you look for truth in history
the search is hard and long,
'cause lots of things in history books
are absolutely wrong.

And even in a history poem,
this may seem impolite,
but that Longfellow poem about Paul Revere's Ride?
It's not exactly right.

History, Poetic License, and The Midnight Ride of Dr. Samuel Prescott

by Timothy Hickman

Listen my children and you shall hear
the truth about ol' Paul Revere,
'cause it's sad to say, but the poet lied
when he wrote about Paul's midnight ride.

There were no hooves of steel
striking sparks along the way,
for the British captured Paul
and they took his horse away.

And the guy who did the ride
was a doctor name of "Sam,"
so why would a poet want
to perpetrate a scam?

Well poets aren't bad,
and poets aren't lazy,
but writing rhymes with English words
can drive a poet crazy.

And "Prescott" doesn't rhyme with "hear,"
that's why the poet used "Revere."
So, is it such an awful crime
to bend the truth to make a rhyme?

Comprehension Skill: Generate Questions (*Grades 3–5*)

Objectives

- Learn to generate questions before, during, and after reading text to support comprehension.
- Use text and text features to clarify meaning and ask questions.

Suggested Passages for Instruction

- *A New Game*
- *Alexander the Great*
- *Sally Ride*
- *Multiplying Two- and Three-Digit Numbers*

Introduce the Comprehension Skill

Use the following details to introduce and describe the comprehension skill.

- Readers generate questions to make sense of texts. Questions help readers focus, find deeper meaning, and clarify information.
- Ask questions to engage. Be curious about the topic. Guess what will happen.
- Ask questions to clarify. Ask about unfamiliar words. Ask about confusing details.
- Ask questions to challenge. Question details that are hard to believe.
- Encourage students to ask questions before, during, and after reading.

Model the Comprehension Skill

- Choose a passage.
- Read the first half of the passage aloud, modeling fluent reading.
- Think aloud before, during, and after asking questions that make you engage, clarify, or challenge.
- Use the language frames below to help generate questions and discussion.
- Finish reading passage.

Practice the Comprehension Skill

- Choose a second passage.
- Have students read the passage.
- Have students record questions they have before, during, and after reading.
- Encourage students to use the language frames below.
- Discuss in small groups which questions were asked and answered or remained unanswered.

Reflect

Come together as a group. Have students discuss when this skill is used and why readers need to ask questions throughout reading.

Language Frames for Generating Questions

I wonder (if, when, how, why) _____ . (Engage)

What does the author mean by _____ ? (Clarify)

How can it be true that _____ ? (Challenge)

Comprehension Skill: Generate Questions (*Grades 3–5*)

Objectives

- Learn to generate questions before, during, and after reading text to support comprehension.
- Use text and text features to clarify meaning and ask questions.

Suggested Passages for Instruction

- Model _____
- Practice _____

Introduce the Comprehension Skill

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Model the Comprehension Skill

- Read the first half of the passage aloud, modeling fluent reading.
- Think aloud before, during, and after asking questions that make you engage, clarify, or challenge.

- Use the language frames below to help generate questions and discussion.

Practice the Comprehension Skill

- Have students read the passage.
- Have students record questions they have before, during, and after reading.
- Encourage students to use the language frames below.
- Discuss in small groups which questions were asked and answered or remained unanswered.

Reflect

Come together as a group. Have students discuss when this skill is used and why readers need to ask questions throughout reading.

_____

_____

_____

_____

Language Frames for Generating Questions

I wonder (if, when, how, why) _____ . (Engage)

What does the author mean by _____ ? (Clarify)

How can it be true that _____ ? (Challenge)

Name: _____ Date: _____

The Abacus

Directions: Read *The Abacus.* Then, choose the best answer for each question. You may reread the text as needed.

---

1. The oldest surviving abacus is from _____ .

A China

B Iran

C Babylon

2. What did *The Abacus* **not** talk about?

A who uses the abacus

B what the abacus is made of

C how the abacus was made

3. What is the author's main purpose for writing *The Abacus*?

A to persuade

B to inform

C to entertain

4. An abacus is used to do all of the following **except**:

A measure angles

B show place value

C count

Name: _____ Date: _____

The Abacus *(cont.)*

5. Which sentence is the best summary of *The Abacus?*

A The abacus was invented a long time ago.

B The abacus is a useful math tool invented long ago.

C People still use the abacus today.

6. Read the sentence: "Each rod **represents** a different place value." What does **represent** mean?

A copies

B opposes

C shows

7. In the first paragraph, which word can replace **device**?

A equipment

B gadget

C appliance

8. Compare and contrast an abacus with a calculator.

The Abacus

Before there were calculators, there was the abacus. The abacus is a **device** that can be used to add, subtract, multiply, or divide. At one time, it was widely used in Asia and parts of Europe. Today you can still find some **shopkeepers** in China or Russia who use one. Your classroom may have a simple one.

The early abacus was a flat stone. It was covered with sand. Lines were drawn in the sand. Then small stones were placed along the lines. The stones were used for counting, adding, and subtracting. The oldest one that still **survives** is from Babylon (present-day Iraq). It was used around 300 B.C.

The abacus as we know it today was probably invented in China around 1200 B.C. It is a wooden frame with metal rods. On the rods are wooden (or plastic) beads. There are Chinese, Japanese, and Russian abacuses. Each one is slightly different, but the idea is the same.

Look at the drawing to the right. It is a Chinese abacus. It is called a suan-pan. Each rod **represents** a different place value. The first rod on the right is the ones column. The second rod is the tens column. The third rod is the hundreds, and so on.

The beads below the central bar are ones. The beads above it are fives. To "count" the beads, the user moves them against the central bar. There are ways to use the abacus for all kinds of math. It can be used for multiplication and division.

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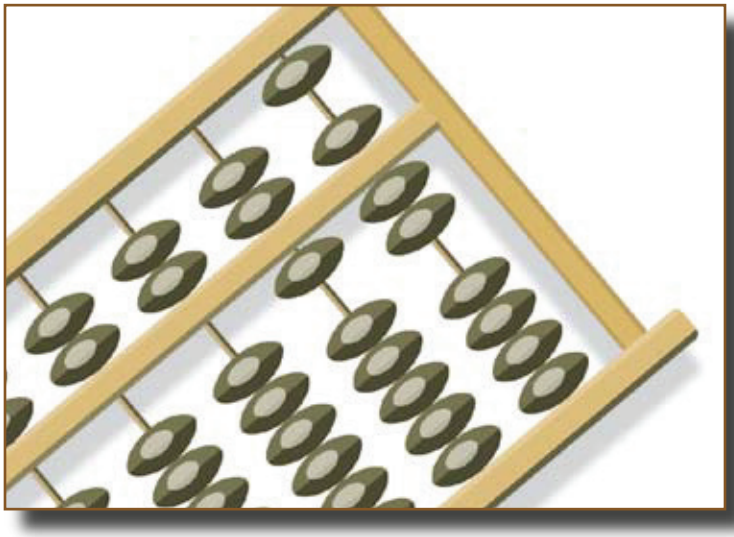


ILLUSTRATION BY JOE LEMONNIER

Name: _____ Date: _____

Frog and Toad Are in Trouble

Directions: Read *Frog and Toad Are in Trouble*. Then, choose the best answer for each question. You may reread the text as needed.

1. Based on this article, the reader can infer that _____ .

A humans are entirely responsible for endangering amphibians

B the declining amphibian population will help clean up pollution

C we can still help save amphibians

2. What is the author's purpose for writing this passage?

A to inform readers about amphibians around the world

B to persuade readers that many amphibians are in trouble

C to describe these fascinating creatures

3. According to the pie chart, how many different species of amphibians existed in 2004?

A more than 5,000

B about 3,000

C less than 2,000

4. According to the pie chart, which group of amphibians should people be most concerned about?

A Critically Endangered

B Extinct

C Near Threatened

Name: _____ Date: _____

Frog and Toad Are in Trouble (cont.)

5. What is not a contributing factor to the decline of amphibians?

A toxic fungi

B loss of habitat

C overgrowth in rainforests

6. Which detail would be most important to include in a summary of this passage.

A "Frogs, toads, and other amphibians are disappearing at a rate that has scientists concerned."

B "Fewer than 1% of species show population increases."

C "It's not easy being green—or blue, for that matter."

7. Based on paragraph 1, what does the word **unprecedented** mean?

A very familiar

B never seen before

C surprising

8. Use details from the text to explain why you think the author includes the following question in paragraph 4.

"If the frogs and toads are dying off, who's next?"

DAVID A. NORTHCOTT/GETTY

An eastern tiger salamander native to east and central North America, is in danger of dying out. Its habitat is disappearing and many of the salamanders are being captured by human collectors.

Frog and Toad Are in Trouble

PAPILIO/ALAMY

The blue poison arrow frog, which lives in Central and South American rain forests, is an endangered species.

It's not easy being green—or blue, for that matter. Frogs, toads, and other amphibians are disappearing at a rate that has scientists concerned. A report released in October 2004, said that about one-third of the world's species of amphibians are **vulnerable** or in danger of dying out. "What we're seeing is **unprecedented**," said the report's lead researcher, Simon N. Stuart.

Among other statistics in the report are these:

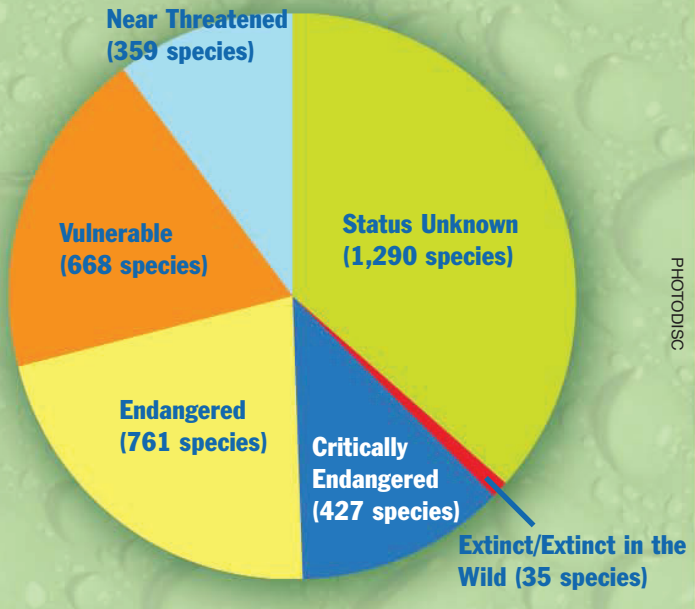
- Nearly one-third (32%) of the world's amphibian species are threatened. That's 1,856 species.
- As many as 168 amphibian species may already be extinct.
- At least 43% of all amphibian species are declining in population. Fewer than 1% of species show population increases.

Researchers say there are many reasons for the decline, including habitat loss. Rain forests and wetlands are being cut down and destroyed at an alarming rate. In addition, a highly **infectious** fungus is attacking many species of amphibians in South and Central America.

There could be other **factors** at work, however, and that's what really worries people. Amphibians are more sensitive to pollution than humans are. Fewer salamanders and frogs could mean there's an increase in air or water pollution. It makes us ask the question: If the frogs and toads are dying off, who's next?

The reports of disappearing amphibians give scientists valuable information as they hunt for the causes of this troubling trend. The news gives the rest of us a reason to be concerned.

The Status of Amphibian Species in 2004



PHOTODISC

Source: Global Amphibians

Name: _____ Date: _____

The Sky Is Not the Limit

Directions: Read *The Sky Is Not the Limit*. Then, choose the best answer for each question. You may reread the text as needed.

1. One of Dr. Tyson's main goals is _____.

A to make science fun and interesting for everyone

B to inspire everyone to become a scientist

C to become the youngest celebrity scientist

2. To learn more about what an astrophysicist does, which of the following would be a good place to start?

A go to your local university

B look up astrophysicist in the dictionary

C read Dr. Tyson's biography

3. How did Dr. Tyson get his start in science?

A being interviewed on *The Colbert Report*

B looking at the moon through binoculars when he was a child

C attending the Mojave Desert astronomy camp

4. What can you infer about Dr. Tyson from reading paragraph 4?

A He left Harvard to gain a new outlook at Columbia.

B He earned his degrees more quickly than anyone else.

C He is smart and athletic.

Name: _____ Date: _____

The Sky Is Not the Limit *(cont.)*

5. Which sentence from this passage shows his attitude toward science?

A "What you need, above all else, is a love for your subject, whatever it is."

B "Tyson continues to jump over hurdles, whether on television, at the planetarium, or in his books."

C "He wants to help nonscientists understand how modern science is affecting the world."

6. What can the reader infer about the Hayden Planetarium?

A The Hayden Planetarium saw great potential in Dr. Tyson when he visited as a child.

B Dr. Tyson's visit to the Hayden Planetarium as a child had a profound effect on him.

C The Hayden Planetarium made Dr. Tyson a celebrity.

7. Someone who writes a **memoir** is writing _____ .

A an autobiography

B a biography

C a fictional narrative

8. The title of the passage is the same as Dr. Tyson's memoir. How does the title reflect his attitudes toward life and science? Use details from the text to support your answer.

_____

_____

_____

_____

_____

_____

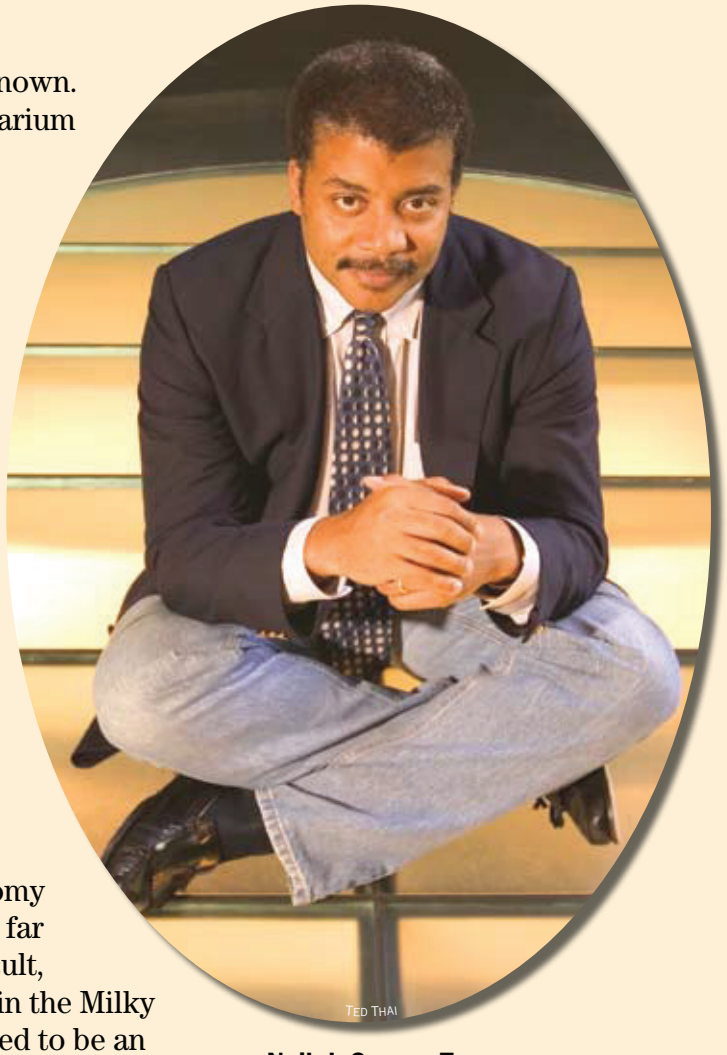
_____

_____

THE SKY IS NOT THE LIMIT

A Biography of Neil deGrasse Tyson

Scientists are not usually **celebrities**, but **astrophysicist** Neil deGrasse Tyson is well known. Dr. Tyson is the director of the Hayden Planetarium at the American Museum of Natural History in New York City. He is the youngest person ever to hold this job. He also hosts the PBS show *Nova*, *Science Now*. As if that were not enough, he has written six books and hundreds of magazine articles. When the late-night comedy show *The Colbert Report* wanted to interview someone about the fate of Pluto as a planet, who did they call? Neil deGrasse Tyson, of course.



Neil deGrasse Tyson

Tyson was born and raised in New York City. As a child, he used to study the moon through a pair of binoculars while standing on the roof of his apartment building in the Bronx. Like many city kids, his first clear view of the stars came during a visit to the Hayden Planetarium at the age of nine. He never dreamed he would grow up to be its director.

When Tyson was 13, he went to an astronomy camp in the Mojave Desert in Arizona. There, far from the city lights that make stargazing difficult, Tyson got his first look at the billions of stars in the Milky Way. By then he had already decided he wanted to be an **astronomer**, even though in his neighborhood, "being smart was not on the list of things that got you respect."

Tyson earned a B.A. in physics from Harvard University. In college he was a member of the crew team and also joined the wrestling team. He later earned a Ph.D. in astrophysics from Columbia University.

SCIENCE FOR THE PEOPLE

One of Tyson's goals has always been to make science popular. He wants to help nonscientists understand how modern science is affecting the world. He also spends a lot of time encouraging an interest in science among young people.

His advice to students who want to pursue a career in science? "What you need, above all else, is a love for your subject, whatever it is. Then, when hurdles are put in front of you, you've got the energy to overcome them."

Tyson continues to jump over hurdles, whether on television, at the planetarium, or in his books. The title of his **memoir,** *The Sky Is Not the Limit*, sums up his attitude toward science and toward life.