

The Mystery of Maya

By ReadWorks

The entrance to the museum loomed ahead, on the horizon. White stone gleamed against an azure sky. Fountains shot water high into the air and a Mexican flag hung limply on this windless day. A large sign read in all capitals “MUSEO NACIONAL DE ANTROPOLOGÍA”—the National Museum of Anthropology.

Looking at the sign, Dulce felt an unexpected thrill run through her. She hadn't been to this Mexico City museum since she was a little kid, tugging on her parents' hands and asking when they could leave to get ice cream in the park outside. She didn't remember much about the museum and couldn't imagine why she was so excited about it now. She hadn't even wanted to come on this field trip. But the trip was mandatory, her teacher had made clear, which is how she found herself standing outside the museum on a clear Thursday morning without anyone to talk to. Dulce followed the rest of her classmates as they ambled through security and entered the museum complex.

Once inside, the students were free to wander independently. Everyone else, it seemed, was starting with the “Mexica” section, about the fearsome Aztec empire, so Dulce decided to begin in the Maya building. Dulce had always preferred the Maya to the Aztec. She liked the symmetry of their structures, the way they had devoted so much time and energy to charting the stars. Dulce took a certain pride in the fact that the Mayan calendar had been more accurate and complex than any other of its time. Most of all, Dulce was drawn to the mystery of the Mayan empire.

The first room she entered was almost completely dark, a single spotlight shining on a stone pillar. The pillar was covered in carvings, symbols that Dulce couldn't understand but wished she could. She drifted past it to a sign on the disintegration of the Mayan empire. No one was sure why Mayan civilization had crumbled but everyone had ideas. Perhaps the Mayans had expanded their borders by too much. Perhaps drought and famine had driven the Mayans from the fertile interior to the coastlands, where they clashed with other societies. The only thing the experts agreed on was that in the year 800 A.D., the Mayan empire had constituted one of the strongest empires on the planet, with enormous cities and an intricate culture. But by the time the Spanish arrived in Mexico, the civilization was a shadow of its former self. The era of the Aztecs had begun.

Dulce continued wandering through the rooms until she reached a massive tomb. Edging away from it, Dulce ran into someone behind her. “Oh! I'm sorry!” she said. The person, a tall older woman, peered at Dulce. She was dressed in black with a large black hat, which she was now removing to smooth her disheveled hair. “The fault is all mine,” the

woman in black said, politely. She stood there, silently, looking at Dulce. Dulce felt that courtesy required her to continue the conversation.

“Do you come to the museum often?” she asked.

The woman in black smiled and reached for her pocket. She pulled out a museum badge stamped with her photo and name, Dr. Hernandez. “Every day,” the woman said. “But you’re dressed so differently from the others,” Dulce said. She had noticed that all of the museum employees wore the same olive-colored uniform.

Dr. Hernandez smiled again. “They make exceptions for me. I’m not a security officer or a guide.” She paused and Dulce waited for more details that never came. Dulce thought it might be rude to pry, so she changed the subject. “Do you know much about the Mayan civilization?” she asked.

“Why, yes, actually,” Dr. Hernandez responded. “I studied them in university.”

“They’re my favorite,” Dulce confided. “Everyone else in my class wanted to see the Aztecs. But I like the mystery of the Mayans, the fact that they were so complex we can’t even understand everything about them today.”

Dr. Hernandez nodded, slowly. “Do you, now? That’s interesting, very interesting.” Dulce heard a group of children enter the room and turned to see if any of them were from her class. They weren’t, but when she turned back, the woman was gone.

Dulce wandered through the rooms, carefully reading the placards describing Mayan society. She paused by the exit, lingering, not quite ready to move on. Just then she noticed a door off to the side of the room that she hadn’t seen before. It was cracked open a few inches, and on the other side Dulce could just make out the silhouette of a woman in a hat. She was not one to hesitate. She strolled in as though she thought that the room were part of the exhibit.

She found herself before a large table covered in carved ceramic sculptures and stone blades. Dr. Hernandez was peering at one of the sculptures through a magnifying glass. She looked up as Dulce entered the room. “Well, hello there,” she said, unsurprised.

“What are you looking at?” asked Dulce.

The woman began to explain the origins of the artifact and then paused—“But perhaps I’m boring you?” Dulce shook her head emphatically. “You know...” said the woman thoughtfully. “We have summer assistantships for students interested in helping the various departments. Perhaps you’d like to assist me with the Mayan artifacts?”

Dulce’s face lit up at the suggestion. “I’d love that,” she said.

“Excellent,” said Dr. Hernandez and handed Dulce a card. “Send me an email and we’ll set it up.” The Mayan civilization would surely remain mysterious, but Dulce would have the opportunity to spend her days among them, in a way, and she could not imagine better company.

Name: _____ Date: _____

1. Where does Dulce go on a field trip?

2. How does Dulce feel about visiting the museum as she stands looking at its sign?

3. Most of Dulce's classmates are more interested in the Aztecs than the Mayans. What evidence from the story supports this statement?

4. Why does Dr. Hernandez most likely offer Dulce a summer assistantship?

5. What is the main idea of this story?

6. Read the sentences and answer the question.

"She found herself before a large table covered in carved ceramic sculptures and stone blades. Dr. Hernandez was peering at one of the sculptures through a magnifying glass. She looked up as Dulce entered the room. 'Well, hello there,' she said, unsurprised. 'What are you looking at?' asked Dulce. 'The woman began to explain the origins of the artifact and then paused—'But perhaps I'm boring you?'"

What does the word "artifact" mean as used in this text?

7. What word or phrase best completes the sentence?

Most of Dulce's classmates are interested in the Aztecs; _____, Dulce prefers the mystery of the Mayans.

8. At the end of the story, Dulce is given the opportunity to do a summer assistantship. What would Dulce help Dr. Hernandez with during this assistantship?

9. How does Dulce end up meeting Dr. Hernandez for a second time?

10. Explain how Dulce's curiosity helped her get an exciting opportunity. Use information from the text to support your answer.

Study Buddies

By Meredith Matthews

Teens talk about being part of medical trials—or not.

The next time you pop a pill for a backache or a cold, check out the label. It may say the drug is safe and effective for ages 12 to adult. But how does the drug's manufacturer know whether it's good for you? Have scientists ever studied it in teens?

In some cases, the answer is no. Many treatments—drugs, devices, and techniques such as surgeries—have been well tested in adults but not in teens. That's changing, though, as health officials encourage more research in young people.

More Info, Please

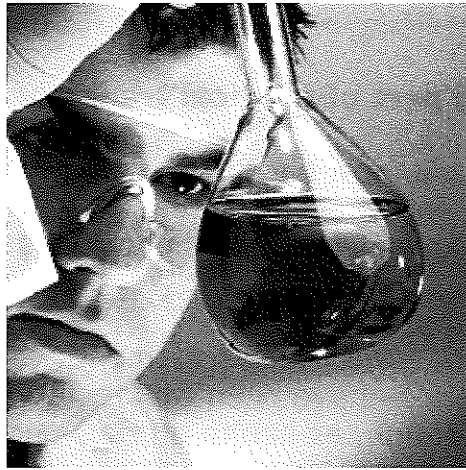
Health providers need to know the best way to help teens with problems. And that information has been hard to find. Most products aren't developed for or tested in this age-group, according to the U.S. Food and Drug Administration. The Best Pharmaceuticals for Children Act, renewed in 2007, seeks more research of health products in kids and teens.

Researchers aren't wasting any time getting young people involved. Perhaps half the patients in Seattle Children's Hospital's Adolescent and Young Adult Cancer Program take part in trials, according to Dr. Rebecca Johnson, the program's medical director. Some studies aim to help teens beat an illness; others test treatments that might have fewer toxic side effects than current treatments.

Why bother? There's a common saying among scientists who study teens: "Children are not little adults." Teens' bodies differ from those of both older and younger people. Their organs work like kids' organs, but their hormone levels are closer to those of adults, so treatments can cause more side effects, says Johnson. That's not the only reason more research is needed. Many cancer treatments affect future fertility—the ability to have children—which is a "huge consideration in adolescents," Johnson notes.

Problems such as high blood pressure that used to affect mainly adults are occurring in a growing number of teens. "We don't have the option of *not* treating the disease, but we don't know the best way *to* treat it," says Dr.

Michael Spigarelli, medical director of clinical trials in Cincinnati Children's Hospital's adolescent medicine division.



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So researchers create studies, many of which are helping teens. Between 1975 and 1995, cancer deaths in kids and teens dropped nearly 40 percent. That change is "really the result of clinical trials," says Dr. Yoram Unguru, a childhood cancer specialist at Johns Hopkins University in Baltimore.

Tough Decisions

Those successes don't mean a trial is a shortcut to a cure. A participating teen might be in the control group that doesn't get the treatment being studied. (Control groups help researchers see how something new stacks up against the current best treatment.) Or the treatment may not work well. Teens participating in clinical trials are taking "a huge leap of faith," admits Unguru.

No one can force people to join studies. Those younger than 18 can't decide on their own to take part—parents or guardians have to sign a consent form. But researchers want teens to have a say and exclude those who don't want to participate. Unguru and his colleagues asked kids and teens who took part in studies about their experiences; pressure from parents and doctors to participate was common. However, when teens have a role in the choice—they provide assent, as opposed to legal consent—it's "empowering ... because so many [other] decisions are taken out of their hands," Unguru says.

The chance to speak up meant a lot to Valery Y., 17, who learned in 2009 that she had leukemia, a blood cancer. Her doctors asked her to participate in a study of differing medication doses. "I didn't hesitate to say yes," the

Baltimore teen remembers; her parents agreed. "I knew there was a chance that the treatment I would get would not work or even make me worse," Valery reflects. What helped her decide? She learned that any children she might have could develop the same disease. By taking part in the trial, explains Valery, "I would feel like I have already done what I could ... to either prevent or help save my kids from cancer."

Some teens make the opposite choice, such as Trey H., also a 17-year-old from Baltimore. After surgery and chemotherapy wiped out most of his osteosarcoma (a cancerous bone tumor), he could have joined a study for a therapy called interferon. "My family and I talked about it a lot, and ... I decided not to do it," says Trey. That's because for the 72-week study, he'd have weekly interferon injections and face side effects. "I wanted to help others with this type of cancer," explains Trey, "but I had had enough of feeling sick, losing my hair, and being stuck with needles to last a lifetime!"

The Bigger Picture

Whether to participate in a clinical trial is a personal choice. People consider potential side effects and health risks, as Trey did. In many drug studies, participants are randomly put in either the treatment group or the control group, which receives the standard treatment or a placebo (a harmless substitute). People in the control group are usually no worse off than people not participating in the study. Those people receiving the new treatment may encounter unexpected problems, but they may also gain benefits they wouldn't otherwise have had.

Morgan H. is already seeing positive results from being in a trial. The 16-year-old from Washington could have had chemotherapy and radiation for Hodgkin's disease, another form of blood cancer, "because I know that works." The study she joined was about skipping high doses of radiation that can have unwanted long-term effects, and in the end, Morgan thinks she made the right choice. "I was nervous about it, but now I'm really glad I've done it," she says. "I feel not having radiation is going to be beneficial. I have a lot of life in me and want to have a good quality of life when I'm older."

Many teens hope for similar outcomes and also opt to join studies for the greater good. (It's certainly not to get rich; people in trials generally are paid only for the expenses of participating, with sometimes a token amount added for their time.) Even if a study has disappointing results, "it goes into [medical journals] and helps us to continually improve" research, says Johnson. "It's something sort of good to come out of a bad situation."

Trey agrees that clinical trials are “a good thing.” In fact, thinking about others influenced his decision to stay out of the study. Trey says he had toyed with the idea of trying it for a bit but not long term. “One of my doctors explained that if I did the trial but didn’t do the complete 72 weeks, the information they gathered wouldn’t be useful,” he points out, “and that did help me decide not to do it.”

For those who do participate, the social rewards are just as important as the personal ones. Being involved in research “gives teens a voice,” reflects Valery. If the study she was a part of does go on to benefit other teens staring down cancer, adds Valery, “it all may have been worthwhile.”

Testing, Testing, 1, 2, 3

Are people in clinical trials treated like guinea pigs? No. By the time a drug, a device, or a medical technique is cleared for human testing, it’s already been tried out in test tubes *and* on guinea pigs, mice, and other lab animals. Then, to make sure the item tested is safe and works in people, the U.S. Food and Drug Administration (FDA) groups clinical trials into the following phases.

Phase 1: Testing in small groups of people (sometimes as few as 10) helps scientists learn how the therapy is used by the body, what side effects it causes, and what doses may be safe. Often, study participants are healthy people.

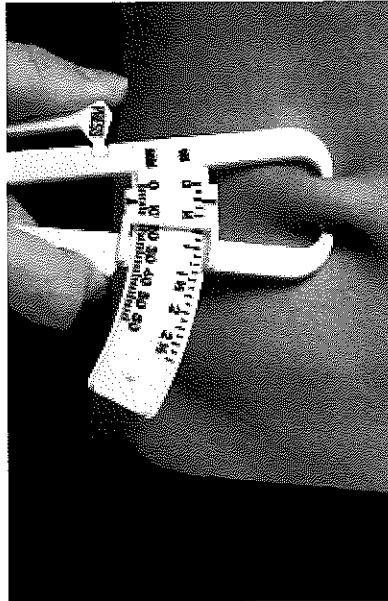
Phase 2: The treatment is studied in 20 to 300 patients with the health condition, mainly to see how well it fights the illness or injury and whether any safety issues pop up. In phase 2 and phase 3 studies, the product or technique is usually tested against a control group.

Phase 3: Huge studies of 300 to 3,000 people put the study item up against the usual therapy. In most cases, neither patients nor researchers know who’s getting the experimental treatment (a process called blind testing), and some patients (the control group) get just the standard treatment instead.

Phase 4: Once the FDA clears the treatment so that anyone can use it, “post-marketing” studies by manufacturers reveal any problems that might have been invisible in small study groups.

Healthy People Help Too

You don't have to be sick to be in a study. Some clinical trials involve healthy people, either to test a therapy's effects or to serve in a control group that doesn't receive it. Some experiments track healthy people to see who develops problems. Cincinnati Children's Hospital studies everything from skin-care products to the relationships of teens and parents, says Dr. Michael Spigarelli, who directs the research.



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Some studies track how healthy teens are.

For instance, Brandi G., 15, from Kentucky, was in a study that looked at the circulatory systems of obese preteens and teens with type 2 diabetes. She isn't obese and doesn't have diabetes. Brandi was in the control group. Being in the study wasn't hard, she says. In addition to having blood drawn, body measurements taken, and heart and blood tests run, she filled in a food diary and wore an activity monitor. Brandi thinks her contribution will help "so there's more knowledge about teens."

Reasons for Rules

You won't find mad scientists running Frankenstein-like clinical trials. Many rules protect participants. For instance, trials have to be approved by an institutional review board—experts who ensure the study minimizes risk to participants.

Another requirement, informed consent, has been getting a lot of attention because of a recent book—*The Immortal Life of Henrietta Lacks*, written by Rebecca Skloot. It tells the story of Lacks, a young mother who died of cancer in 1951. In the hospital, samples of her tumors were taken without her knowledge or consent.

Scientists discovered that those cells stayed alive in the laboratory. Since the 1950s, cells that came from Lacks have become a mainstay of research. Scientists have used them for everything from developing the vaccine for polio to studying radiation poisoning.

Sounds terrific, right? But doctors did not ask Lacks or her family for consent to take or use her tissue. Her family members weren't compensated for the cells, which have made millions of dollars for private companies. Today, research protections make such a scenario far less likely.

Name: _____ Date: _____

1. Which of the following is not a reason teens opt to participate in trials?
 - A to improve their own health conditions
 - B to make money
 - C to contribute to the greater good
 - D to have a voice and have a say in things

2. The author presents evidence in this article for which of the following arguments?
 - A All teens should participate in medical trials.
 - B Teens should rarely participate in medical trials; they're too risky.
 - C It's a personal choice whether a teen should participate in a medical trial.
 - D Before a teen participates in a medical trial, he or she should talk to his or her parents and consider all the risks, benefits, and potential side effects.

3. Which of the following conclusions about children's and teens' involvement in medical trials is supported by the passage?
 - A Studies with younger people improve what we know about products and treatments.
 - B Involving children in the medical trials makes them feel better, even if the impact on our medical knowledge isn't large.
 - C There are too many risks involved in conducting studies with youth, so we should abolish these types of studies altogether.
 - D Children's and teens' involvement in medical trials is only helpful some of the time.

4. Read the following sentence: "However, when teens have a role in the choice—they provide assent, as opposed to legal consent—it's 'empowering ... because so many [other] decisions are taken out of their hands,' Unguru says."

The word **assent** means

 - A reach the peak of
 - B agreement
 - C difference
 - D data

5. This passage is mostly about
 - A whether or not parents should sign their kids up to participate in medical trials
 - B the challenges of recruiting young people to participate in medical trials
 - C the impact of younger people's involvement, or lack thereof, in medical trials
 - D the risks involved in participating in medical trials, especially for children and teenagers

6. What are some of the things a teen might consider in determining whether to participate in a medical trial or not?

7. What does Unguru mean when he says that children participating in the trials take "a huge leap of faith"?

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Some teens choose *not* to participate in a trial _____ they're already exhausted from treatment after treatment and don't want to go through more.

- A also
- B because
- C although
- D however

9. Answer the following questions based on the sentence below.

Deciding whether or not to participate in a medical study is a personal choice for teens and children.

What? deciding whether or not to participate in a medical study

(is) What? _____

(for) Who? _____

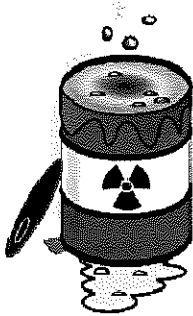
Directions: Read the vocabulary word and definition below to complete questions 10a, 10b, and 11.

Vocabulary Word: **toxic** (tox · ic): poisonous.

10a. Read the sentences below and underline all forms of the word **toxic**.

1. "Don't drink that! It's toxic!"
2. Some things that are safe for animals to eat can be toxic if ingested by humans.
3. It's a toxic environment and harmful to your health to be there.
4. There are toxic substances in that that can cause cancer if you inhale too much of it.
5. You have to dispose of toxic waste in a special way.

10b. Where would you expect to find toxic substances?



11. If someone showed you a toxic piece of food, would you eat it?

Name: _____ Date: _____

NTI 7th math - Day #2

Question 1 of 10

In Tempe, Arizona, the temperature rose 8 degrees on Monday, dropped 6 degrees on Monday night, and rose 3 degrees on Tuesday.

What was the overall rise or drop in temperature?

- A. rise of 11 degrees
- B. drop of 5 degrees
- C. rise of 5 degrees
- D. drop of 6 degrees

Question 2 of 10

A football team needs to gain a total of 10 yards within four downs or else they lose possession of the ball. On the first down, the football team gained 6 yards. On the second and third downs, they lost 2 and 3 yards respectively. On fourth down, they gained 8 yards.

How many total yards did the team gain in four downs?

- A. 19
- B. 9
- C. 8
- D. 10

Question 3 of 10

Kelly had \$30 in her savings account. Kelly spent \$20 on a CD. She later deposited \$15 in her savings account. Kelly then spent \$18 on a new purse.

Write the amount Kelly has in her savings account as an integer.

- A. 7
- B. -7
- C. 20
- D. -20

Question 4 of 10





If \ominus represents -1 and \oplus represents +1, find the sum of the pictorial representation below:



- A. -60
- B. -17
- C. -7
- D. +7

Question 5 of 10

If a shaded tile is equivalent to positive one and an unshaded tile is equivalent to negative one, which diagram shows the sum of -4 ?

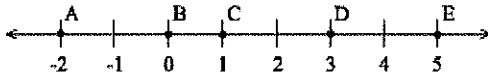
- A. 
- B. 
- C. 
- D. 

Question 6 of 10

Jim is fencing his yard for his dogs. His yard has five sides which measure $7\frac{1}{4}$ feet, $8\frac{3}{4}$ feet, $10\frac{2}{3}$ feet, $9\frac{7}{8}$ feet and $9\frac{1}{3}$ feet. He does not add these measurements together before he leaves to buy the fencing material, but he estimates about 40 feet is needed. He would rather have too much fencing than not enough. Is his estimation correct?

- A. Yes, he will have much more than is required.
- B. Yes, he is very close to the exact amount required.
- C. No, he will not have enough material to build the fence.
- D. Not enough information is given to determine the answer.

Question 7 of 10



Use the number line above to determine $C - A$.

- A. -1
- B. 2
- C. 3
- D. 5

Question 8 of 10

Solve: $|-8 - (-6)|$.

- A. -12
- B. 2
- C. 14
- D. 48

Question 9 of 10

Solve: $|-3 + (-7)|$.

- A. -21
- B. 2
- C. 4
- D. 10

Question 10 of 10

What happens when you add

$$\frac{2}{3} + \frac{1}{2} ?$$

- A. The resulting fraction is larger than 1.
- B. The result is the same as multiplying the fractions.
- C. The resulting fraction is smaller than 1.
- D. The resulting fraction is $\frac{3}{5}$.

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