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Shaped Like a Pear

Sailors long ago were often afraid that if they sailed too far from home they would fall off the edge of the flat ocean. In the past, many people had to trust the word of others, for they had no way to gather information for themselves.

Today, we can fly in airplanes high over the earth and see the curve that is proof of its roundness. Astronauts soaring miles high can send us pictures that support our beliefs. Most people now accept the fact that the earth is definitely not flat. But many of them don't realize that it's not exactly round either. Actually, some scientists in the 1950s discovered that the earth is shaped more like a pear, thicker on one end than the other.

A mathematician, Ann Eckels Bailie, used computers to gather information to use in planning space flights. In her work, she figured the distance of spacecraft from the planets and stars.

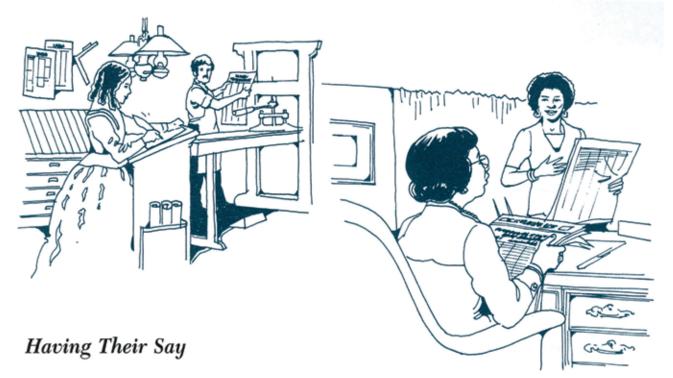
During her regular work of tracking the second U.S. satellite, Vanguard I, she discovered some facts that didn't seem to make sense. It appeared that the perigee—or point nearest to the earth—of the Vanguard orbit measured a different distance from the northern hemisphere of our earth than from the southern hemisphere.

At first, she and her colleagues thought that the strange figures were due to some mathematical error. But Bailie wouldn't give up the idea that important new information had been discovered. She and the other scientists discussed the shape of the earth again and again. One person even used Silly Putty to show how the earth bulged a little at the equator. Suddenly, Bailie and the others began to see that the same kind of gravitational pull that made the middle bulge might explain the different measurements for the northern and southern hemispheres.

Further research finally supported these beliefs. Bailie's accidental finding gave us a surprising new picture of the shape of the earth.

FIND THE ANSWERS

1.	Sailors long ago thought the ocean was a. a pear. b. round. c. flat. d. high.
2.	The word in paragraph 5 that means half of the earth is
3.	The words "a mathematician" in paragraph 3 describe
4.	While it is not directly stated, the article suggests that a. people change their ideas slowly. b. more airplanes are needed in science. c. people love to change their minds.
5.	The perigee is that point in an orbit that is nearest the a. satellite. b. earth. c. computer.
6.	On the whole, the article tells about a. how most mathematicians work. b. an accidental discovery about the earth's shape. c. how to track an orbit.
7.	Which statement does this article lead you to believe? a. Small discoveries can lead to big changes in thought. b. Small discoveries aren't worth checking. c. Computers aren't much use anymore.
8.	Why did Ann Eckels Bailie use computers? a. To prove the earth was round. b. To gather information for planning space flights. c. Because all spacecraft had to carry computers.
9.	Think about the concept for this article. Which statement seems true both for the article and for the concept? a. Scientists like space study more than mathematics. b. New facts can bring about changes in our beliefs. c. New facts don't really change old ideas.



In 1833, Lydia Maria Child put into writing her thoughts about slavery. Her book had a long title: An Appeal in Favor of the Class of Americans called Africans. Child knew she was taking a chance, but she didn't expect the angry response she received.

Her friends didn't approve; many people stopped talking to her. She had begun to publish *Juvenile Miscellany*, the first magazine for children, but she had to stop publication because so many people had stopped buying the magazine in protest.

Other unexpected things happened, though, that turned out to be good. Some people started thinking about her words. Others decided to free their slaves after reading her words. Famous writers of the time wrote about her bravery in speaking out.

Lydia Maria Child continued to write and publish antislavery journals. She became the editor for an antislavery journal in New York called *The Standard*. Through this journal, she influenced many thinkers of the times.

Throughout the 1900s. African Americans took advantage of the printed word to put forth their own points of view. One of America's greatest poets was Langston Hughes, an African American who wrote during the first half of the twentieth century. His work is still popular with children as well as adults. But Hughes was no exception. The novelist Toni Morrison won a Pulitzer Prize in 1988 and the Nobel Prize for literature in 1993. Plays written by August Wilson have been awarded two Pulitzer Prizes. The poet Maya Angelou read one of her poems at President Clinton's first inauguration in 1993.

Today the influence of African-American writers extends far beyond the African-American community.

FIND THE ANSWERS

1.	Lydia Maria Child published the first a. slave book. b. want ads. c. African book. d. children's magazine.
2.	The word in paragraph 4 that means had an effect on is
3.	The words "no exception" in paragraph 5 refer to
4.	While it is not directly stated, the article suggests that a. people can stop a business by not supporting it. b. people need to learn more about writing. c. African Americans are better poets than novelists.
5.	Some people thought Lydia Maria Child was too a. bold. b. young. c. tired.
6.	On the whole, the article tells about a. the way children learn to write. b. how to start a publishing business. c. the power of the printed word to produce change.
7.	Which statement does this article lead you to believe? a. People don't pay much attention to newspapers. b. Writers can influence the way we think. c. Writers want to win prizes.
8.	Why do African-American writers want to publish their own writings? a. Congress passed a law for writers. b. They can't get any other jobs. c. They want to express their own points of view.
9.	Think about the concept for this group of articles. Which statement seems true both for the article and for the concept? a. Sticking to an idea may have surprising results. b. People should quit if their ideas don't work. c. Young people are the best writers of new ideas.