

Cao Chong Weighs an Elephant

by Songju Ma Daemicke and Christina Wald AGE LEVEL 5–8 years

About the Story

In ancient China, the emperor gave young Chong's father the gift of an enormous elephant, an animal no one in his city had seen before. People wondered how much the elephant weighed. How could they measure its weight? No one knew. But then Chong whispered a clever solution to his father. It involved a boat, measurement scales, and some rocks. The method worked and Chong was applauded for his intelligence and ingenuity.



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Words to Learn

MATH WORDS

weight, mass, balance, enormous, dimensions, combined

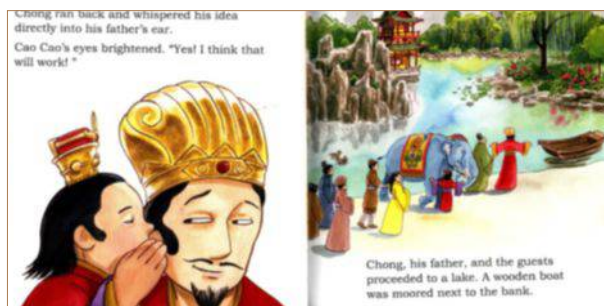
OTHER WORDS

ancient, Prime Minister, Wu Kingdom, ambassador, applauded, spectators, jade, jin (a unit of weight), stumps, advisor, honorable, determine, brainstorm, ingenious

About the Math

From reading the story of how Chong weighed the elephant, your child can learn:

- Sometimes, the most direct approach to solving a problem (using a balance scale to weigh the elephant) doesn't work.
- Solving a problem often requires creativity and non-conventional thinking.
- Chong's method involved three steps: determining how much the elephant's weight made the boat sink in the water, putting enough rocks in the boat (without the elephant in it) to sink the boat to the same level, and weighing the rocks.
- Weighing the rocks was easy. The cleverness was in using the rocks as a substitute for the elephant to determine the animal's weight.



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Math Talk During Reading

DISCUSS CHONG'S METHOD OF WEIGHING THE ELEPHANT

How did Chong figure out how the elephant's weight affected the boat? (He made a line showing how far the boat sank.)

Why did Chong put rocks in the boat? (To make the boat sink to the same level as when the elephant was in it.)

THINK ABOUT OTHER APPROACHES

Suppose you don't have rocks. What could you use instead? (Cans of macaroni or other things!)

TALK ABOUT CHONG'S THINKING

What did Chong do before he added up the numbers? (He thought about the problem and developed an indirect method that allowed him to calculate. Calculation came last.)

Try to come up with some of your own questions and comments, too!

Activity After Reading

USE CHONG'S METHOD TO WEIGH SOMETHING AT HOME

Let's weigh this orange. First, we'll put it in this plastic container and then we'll see how much the container sinks in water. After removing the orange from the container, we'll put pennies in the container. Finally, we'll weigh the pennies.

Mathical

BOOK PRIZE

The Mathical Book Prize recognizes math-inspiring literature for kids ages 2-18. Prize-winning books are selected by a committee of teachers, librarians, mathematicians, and others. To get the Mathical List, plus reading guides, book reviews, and more, see

mathicalbooks.org

PreK WINNERS:

One Fox: A Counting Book Thriller by Kate Read
Crash! Boom! A Math Tale by Robie H. Harris
Baby Goes to Market by Atinuke
ONE Very Big Bear by Alice Brière-Haquet
8: An Animal Alphabet by Elisha Cooper
Have You Seen My Dragon? by Steve Light

GRADES K-2 WINNERS:

Pigeon Math by Asia Citro
Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain by Cheryl Bardoe
Sheep Won't Sleep: Counting by 2s, 5s, and 10s by Judy Cox
Absolutely One Thing: Featuring Charlie and Lola by Lauren Child
Max's Math by Kate Bank
One Big Pair of Underwear by Laura Gehl

PreK HONOR TITLES:

Animal Shapes by Christopher Silas Neal
Count the Monkeys by Mac Barnett
Count with Maisy, Cheep, Cheep, Cheep! by Lucy Cousins
Goodnight, Numbers by Danica McKellar
I Know Numbers by Taro Gomi
A Mousy Mess by Laura Driscoll
One Happy Tiger by Catherine Rayner
Over in a River: Flowing Out to the Sea by Marianne Berkes
Press Here by Hervé Tullet
Round by Joyce Sidman
100 Bugs! A Counting Book by Kate Narita

GRADES K-2 HONOR TITLES:

The Boy Who Loved Math by Deborah Heiligman
Cao Chong Weighs an Elephant by Songju Ma Daemicke

Counting on Katherine: How Katherine Johnson Saved Apollo 13 by Helaine Becker
Count on Me by Miguel Tanco
The Girl With a Mind for Math: The Story of Raye Montague by Julia Finley Mosca
How Many Jelly Beans? A Giant Book of Giant Numbers! by Andrea Menotti
Is 2 a Lot?: An Adventure with Numbers by Annie Watson and Rebecca Evans
Lifetime: The Amazing Numbers in Animal Lives by Lola M. Schaefer
Shapes, Reshape! by Silvia Borando
When Sophie Thinks She Can't by Molly Bang
Zero the Hero by Joan Holub
3x4 by Ivan Brunetti

HALL OF FAME TITLES:

Hippos Go Berserk! by Sandra Boynton
One Grain of Rice: A Mathematical Folktale by Demi
The Very Hungry Caterpillar by Eric Carle

