Mathematical Notes about *Actual Size* by Steve Jenkins, and *If You Hopped Like a Frog* by David M. Schwartz

Using the Concept of Ratio to Convey Mathematical Details

Both authors use the concept of ratio, but in a slightly different way. A ratio is a mathematical way to compare, and it is aptly phrased as "This is to that." Jenkins uses the 1:1 ratio by illustrating his text with actual-size representations. Many facts in the endnotes reflect a 1:1 ratio, but with verbal comparisons, such as a goliath spider weighs about the same as a housecat.

Schwartz uses the concept of ratio too, but not a 1:1 ratio. For instance, readers learn that an ant can lift 50 times its own body weight (1:50 ratio); proportionately a child could lift a car.

Using an Understanding of Ratio to Enhance Critical Reading

A critical examination of both books reveals two perspectives on "amazing," and can help children better understand the concept of ratio. For example:

- A 1-foot chameleon has a tongue 6 inches long (Schwartz text)
- A 7-foot anteater has a tongue that is 2 feet long (Jenkins text)

Although the anteater's tongue is much larger, the chameleon's tongue is proportionately larger for its body size. (The tongue of the chameleon is ½ its body length and the tongue of the anteater is less than 1/3 of its body length. If an anteater's tongue was proportionate to a chameleon, it would be 3 ½ feet long.) Thus, the question, "Compared to what?" is an important one for readers to pose as they encounter statistics in their reading. This kind of questioning promotes critical reading as well as mathematical understanding.