

# 13 If You Hopped Like a Frog

by David M. Schwartz

## TOTAL RUNNING TIME

12:38

## ABOUT THE PROGRAM

The opening interview segment is appropriate for discussions of learning basic math, utilization of math in daily life, cross-curriculum learning, and how to enjoy math and science.

Author David Schwartz marries his interest in math concepts and science facts with his strong belief that books are the best way to open up worlds of excitement for young readers. Ratios and proportions are made clear through Schwartz's clever comparisons using natural science facts, coupled with James Warhola's fun and interesting illustrations.

## SUGGESTED USAGE—MIDDLE SCHOOL

### PRIOR TO THE PROGRAM

Ask students if they can define a ratio. Next, ask if they can use science facts to define it.

Inform students that they'll be watching part (or all) of a segment of the series *Heroes Read* in which author David M. Schwartz speaks of his favorite subjects: math and science.

### WHILE VIEWING

Be sure to preview the video segment so that you might spot concepts that are particularly conducive to your students and curriculum. Some examples of possible discussion pause points include:

- The author mentions how he's written almost 50 books so far in his career. Ask students to guess how old Schwartz might be, and to try to estimate how many books a year he's had to write since age 21.
- The author says math is really a way of understanding our world. What does he mean by that statement?
- Ask your students to come up with some real-life applications of things they've learned so far in math.

If you have time, and feel it appropriate for your classroom, finish the episode, viewing the author reading *If You Hopped Like a Frog*.

### AFTER VIEWING

- Discuss careers that integrate math or science with language arts.
- If you chose to view the entire segment of *Heroes Read: If You Hopped Like a Frog*, the following activity might be appropriate. Have students keep a journal and write a final discovery paper about ratios and proportions they observe in their everyday experience.

## SUGGESTED USAGE—ELEMENTARY

### PRIOR TO THE PROGRAM

Ask your students to remember the last time they walked side by side with an adult. Were they able to keep up, or did they have to take more steps than the adult did to cover the

same amount of distance? Observe that the adult's step is longer because the adult's legs are longer.

Tell them that their two steps compared to the adult's one step is a ratio, or a comparison between two numbers. Show them, on the blackboard, how a *ratio* would look:

$$2:1 \quad \text{or} \quad \frac{2}{1}$$

Tell students they're going to hear a lot more ratios as they listen to the following story, *If You Hopped Like a Frog*, part of the *Heroes Read* series. As always, when utilizing video segments in the classroom, it's wise to give students a specific responsibility while watching. Tell students to listen carefully, and at the end of the program you will ask them to write a paragraph about their favorite ratio presented by the author. Start playing the tape from the beginning of the storytelling segment.

### WHILE VIEWING

Some pause points that will allow you to stop the tape briefly and elicit discussion from your students include:

- Just after the explanation that snakes can swallow something twice the size of their heads, Schwartz puts his hands against his own head and tells students to try to do the same. List items that size that could be eaten.
- Schwartz asks, "What would your mother say" if you could sweep the food off your plate like a chameleon? Discuss.

### AFTER VIEWING

- Have students write a short paragraph detailing which of the ratios or comparisons in the story was their favorite.
- Have students try to come up with some ideas of their own for making comparisons and creating ratios to help figure something out. For example, the proportional compar-

ison of adults and children to standard doorways or steps in a staircase.

- Plan a visit to the school cafeteria to have students see the difference between preparing a meal for one family compared to preparing a meal for the entire school.

### RELATED WEB SITES

#### GO MATH! ONLINE MATH HELP

<http://www.gomath.com/>

An online mathematics tutor.

#### MATH LEAGUE: RATIO AND PROPORTION

<http://www.mathleague.com/help/ratio/ratio.htm>

This is the Math League national Web site, with a graphic explanation of ratio.

#### HARCOURT SCHOOL PUBLISHERS WEB SITE: ANIMATED MATH GLOSSARY

<http://www.hbschool.com/glossary/math/glossary5.html>

#### DALE SEYMOUR: ALBERT INCHWORM'S ACTIVITY PAGE "HOW BIG IS A HAND?"

[http://www.pearsonlearning.com/dsp-publications/start\\_kids.html](http://www.pearsonlearning.com/dsp-publications/start_kids.html)

Starting the very basics of understanding big and small.

#### PBS TEACHERSOURCE: MATHLINE: HOW MANY NOSES ARE IN YOUR ARM?

[http://www.pbs.org/teachersource/mathline/lessonplans/msmp/noses/noses\\_procedure.shtm](http://www.pbs.org/teachersource/mathline/lessonplans/msmp/noses/noses_procedure.shtm)

#### SCORE MATHEMATICS: POPULATION RATIOS

<http://score.kings.k12.ca.us/lessons/popratio.htm>

#### LEARNING ABOUT RATIOS: A SANDWICH STUDY

<http://www.col-ed.org/cur/math/math17.txt>