

THINK LIKE SOCRATES

Using Questions to Invite
Wonder & Empathy
Into the Classroom

Grades 4-12

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Thank you

FOR YOUR
INTEREST IN
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Please enjoy this complimentary excerpt from *Think Like Socrates* by Shanna Peeples. In this lesson from, author Shanna Peeples provides complex texts for various grade levels and includes critical questions for debate and discussion amongst your students.

LEARN MORE about this title, including Features, Table of Contents and Reviews.

LESSON 8.1 Applying Leveled and Big Questions in Math

Early childhood text: *The Right Number of Elephants* by Jeff Sheppard (1993)

Summary: By answering the repeating question—What is the right number of elephants? (for various silly tasks)—children practice the concept of counting.

Level 1: What is the right number of elephants for a quick circus?

Level 2: The author says two elephants can make a swing for a little kid, but what other games could two elephants help someone play?

Level 3 (for debate or discussion): What is the right number of friends to have, and why do you think that?

Elementary text: *It's Probably Penny* by Loreen Leedy (2007)

Summary: This introduction to probability uses the story of Lisa and her homework to think of an event that will happen, one that might happen, and one that can't happen.

Level 1: What group of jelly beans makes it impossible for Mr. Jayson to pick a green one?

Level 2: Lisa says there's a tiny chance that Penny might dig up a treasure chest on the beach, but what is something that Penny will find if she goes to the beach?

Level 3 (for debate or discussion): What is something you know for sure will happen? Something that might happen? Something that can't happen? Why do you know that?

Middle school text: *The Way Things Work Now: From Levers to Lasers, Windmills to Wi-Fi, A Visual Guide to the World of Machines* by David Macauley (2016)

Summary: This well-illustrated, humorous explainer of physics helps students understand how math and science work together to create so much of our technology.

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Level 1: What is a binary number ?

Level 2: Which two of the book’s inventions do you think are the most important to our lives and why?

Level 3 (for debate or discussion): Will there ever be a machine that can think and act like a human—and if so, would it deserve the same treatment as humans?

High school text: *Information Is Beautiful* by David McCandless (2012)

(If you can’t find the book, he has a website of the same name with many examples, some animated.)

Summary: This book is an engaging design of statistics, percentages, ratios, and other numbers that works as a primer for data visualization for students to use as inspiration for designing their own infographics of numerical information.

Level 1: Based on the infographic “Mean Happiness,” which country has the highest proportion of happy people?

Level 2: In the “Mountains Out of Molehills” chart, how does the visual representation of the information help you understand the relationship between the content of a story and how likely it is to become viral?

Level 3 (for debate or discussion): How can we be sure something is true—especially if we can’t see it (either because it moves too fast for us to see, like the individual flaps of a hummingbird’s wings, or too slow, like a flower blooming, or it is invisible like Wi-Fi)?

EXTENSIONS FOR SPEAKING AND LISTENING (IN-CLASS DEBATE HANDOUT IN THE APPENDIX)

- Does lowering the federal corporate income tax rate create jobs?
- Should fantasy sports be considered a form of gambling, or are they just a creative use of statistics?
- Will cryptocurrencies, like Bitcoin, replace traditional currency?
- Is it smarter to buy a car or lease a car?
- Are lotteries ethical?
- Should we try to save energy? Does it really make a difference?

EXTENSIONS FOR ACADEMIC WRITING PRACTICE

Students complete a debate reflection (handout in the appendix). ●