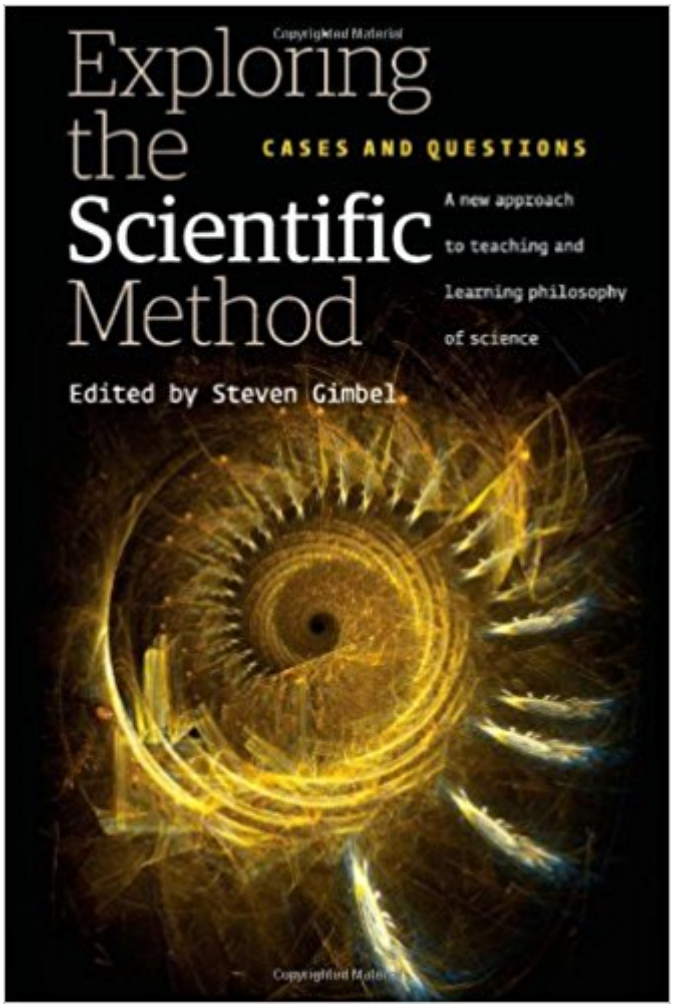
Exploring The Scientific Method: Cases And Questions



Synopsis

From their grade school classrooms forward, students of science are encouraged to memorize and adhere to the â œscientific methodâ •â ”a model of inquiry consisting of five to seven neatly laid-out steps, often in the form of a flowchart. But walk into the office of a theoretical physicist or the laboratory of a biochemist and ask â œWhich step are you on?â • and you will likely receive a blank stare. This is not how science works. But science does work, and here award-winning teacher and scholar Steven Gimbel provides students the tools to answer for themselves this question: What actually is the scientific method?Â Â Â Â Â Â Â Â Â Â Â Exploring the Scientific Method pairs classic and contemporary readings in the philosophy of science with milestones in scientific discovery to illustrate the foundational issues underlying scientific methodology. Students are asked to select one of nine possible fieldsâ ”astronomy, physics, chemistry, genetics, evolutionary biology, psychology, sociology, economics, or geologyâ ”and through carefully crafted case studies trace its historical progression, all while evaluating whether scientific practice in each case reflects the methodological claims of the philosophers. This approach allows students to see the philosophy of science in action and to determine for themselves what scientists do and how they ought to do it.Â Â Â Â Â Â Â Â Â Â Â Â Exploring the Scientific Method will be a welcome resource to introductory science courses and all courses in the history and philosophy of science.
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Customer Reviews

â œThis is a truly unique approach for a textbook. The philosophical positions that Gimbel chooses to focus on are important and the choices of primary source articles are excellent. Exploring the Scientific Method will be attractive to anyone teaching courses on the history and philosophy of science.â • (Mara Harrell, Carnegie Mellon University)â œThe way Gimbel integrates core readings in the philosophy of science with case studies works extremely well. As far as I know, Exploring the Scientific Method is the first book that does this, and I think this is exactly the approach that is needed to orient new students in the field.â • (Mathias Frisch, University of Maryland)â œAll things considered, Gimbel succeeds in creating an innovative textbook that combines philosophical and historical approaches to the study of scientific method. Exploring the Scientific Method is not a comprehensive introduction to philosophy of science, and it does not provide an adequate foundation for advanced study in HPS, but those are not Gimbel's intentions. Focusing on scientific method specifically, rather than on the broader scope of philosophy of science, allows Gimbel to include an impressive variety of material while maintaining the clear themes of characterizing scientific reasoning and the structure of theories. This volume is ideal for a course geared toward students in scientific and other disciplines who wish to gain insight into scientific method, and the unique integrated approach is invaluable for students with no background in HPS.â • (Brooke Abounader Isis) --This text refers to the Hardcover edition.

Steven Gimbel is associate professor of philosophy at Gettysburg College. He is the author of several books, including The Grateful Dead and Philosophy and Defending Einstein, and the 2005 recipient of the Luther W. and Bernice L. Thompson Distinguished Teaching Award.

Best book to explore the development of the scientific method. Goes beyond philosophy and explores the actual practice of science as done by real researchers.

An extremely boring and convoluted book. I had to read this for a philosophy course and being a scientist I thought I would be able to interpret and understand the passages however the authors of course there are multiple authors here and quotes go through many many hoops and whistles to get you to a final idea that is Half Baked best.

Great book, timely delivery.

How to Play Drumset with this Innovative Method (Alfred's Drumset Method) Easy Songs for Mandolin: Supplementary Songbook to the Hal Leonard Mandolin Method (Hal Leonard Mandolin Method: Supplement to Any Mandolin Method) Guitar for Kids Method & Songbook: Hal Leonard Guitar Method Bk/online audio (Hal Leonard Guitar Method (Songbooks)) What Was the Missouri Compromise?: And Other Questions About the Struggle over Slavery (Six Questions of American History) (Six Questions of American History (Paperback)) 100 Questions: Super-Handy Practice Book by Citizenship Basics for the U.S. Citizenship/Naturalization Interview/Test: 100 Civics Questions & Answers and Questions-Only: The Best Way to Study! Bar Exam: Practice MBE Questions 200 High Level Questions Look Inside *(e-book): e book 200 Answered and Analyzed Questions To Help You Pass The Bar Exam First Time The Scientific Endeavor: A Primer on Scientific Principles and Practice Diversity and the Tropical Rain Forest: A Scientific American Library Book (Scientific American Library Series) Scientific Integrity: Text and Cases in Responsible Conduct of Research Writing in the Sciences: Exploring Conventions of Scientific Discourse (Part of the Allyn & Bacon Series in Technical Communication) (3rd Edition) Scientific Method: A Historical and Philosophical Introduction (Routledge Advances in Management and) Creepy Crawlies and the Scientific Method: More Than 100 Hands-On Science Experiments for Children How Do We Know about Genetics and Heredity (Great Scientific Questions and the Scientists Who Answered T) Mad Margaret Experiments with the Scientific Method (In the Science Lab) Investigating the Scientific Method with Max Axiom, Super Scientist (Graphic Science) Scientific Method Investigation: A Step-by-Step Guide for Middle-School Students (Science Activity Books) Investigating the Scientific Method with Max Axiom, Super Scientist Laboratory Scientific Glassblowing: A Practical Training Method Mastering Elliott Wave: Presenting the Neely Method: The First Scientific, Objective Approach to Market Forecasting with the Elliott Wave Theory (version 2)