

PRAISE FOR THE FIRST EDITION

“. . . a wonderfully useful description of how science works. The examples are informative and effective. The exercises are imaginative, both thoughtful and thought-provoking. And the components of scientific method are clearly presented with enough detail to see not only how they work but both their strengths and limitations.”

Peter Kosso in *Science & Education*

“More often than not students acquire content knowledge about science, deprived from any explicit reflection about the methods, the reasoning and the uncertainties that characterize it. . . . But this is not how science is done. If there are recipes, they are open to creativity and they vary enormously. *Recipes for Science* excellently shows this and provides very useful materials for explicit reflection about the nature of science.”

Kostas Kampourakis, *University of Geneva, Switzerland*

Recipes for Science

Scientific literacy is an essential aspect of an undergraduate education. *Recipes for Science* responds to this need by providing an accessible introduction to the nature of science and scientific methods appropriate for any beginning college student. The book is adaptable to a wide variety of different courses, such as introductions to scientific reasoning, methods courses in scientific disciplines, science education, and philosophy of science.

Special features of *Recipes for Science* include contemporary and historical case studies from many fields of physical, life, and social sciences; visual aids to clarify and illustrate ideas; text boxes to explore related topics; plenty of exercises to support student recall and application of concepts; suggestions for further readings at the end of each chapter; a glossary with helpful definitions of key terms; and a companion with course syllabi, internet resources, PowerPoint presentations, lecture notes, additional exercises, and original short videos on key topics.

KEY UPDATES TO THE SECOND EDITION

- 13 short chapters of uniform length that make it easier to adapt to a college semester
- Case studies and examples featuring new research and important historical research across many fields of science
- Added discussion of timely topics, including large research collaborations, trust and distrust of science, machine learning and other technology-driven advances, diversity in science, and connections to indigenous knowledge
- Streamlined and simplified discussion of some topics, such as experimentation and statistical hypothesis-testing
- Exercises that are clearly aligned with learning goals and sorted into types: Recall, Apply, and Think
- Additional online exercises and a series of original videos on key topics
- Exercise solutions available on an instructor-only section of the website

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Recipes for Science

An Introduction to Scientific Methods and Reasoning

Second Edition

**Angela Potochnik,
Matteo Colombo, and
Cory Wright**

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For all the excellent teachers from whom we've learned our love of science

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