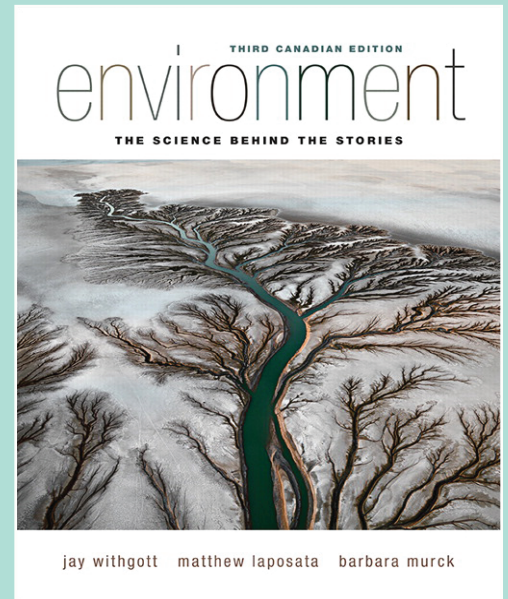




Pearson

Environment: The Science Behind the Stories, 3e

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In ***Environment: The Science behind the Stories***, the authors strive to implement a diversity of modern teaching approaches and to show how science can inform efforts to bring about a sustainable society. The text encourages critical thinking and maintains a balanced approach as it fleshes out the vibrant social debate that accompanies environmental issues.

Environment: The Science Behind the Stories provides students with a concrete and engaging framework for understanding and applying the scientific process to environmental concerns. Through its case studies, real-life stories, emphasis on scientific literacy and data analysis, the Third Canadian Edition encourages students to evaluate information critically both in the text and its online resource, MasteringEnvironmentalScience.

Personalize Learning with MasteringEnvironmentalScience

MasteringEnvironmentalScience is an online homework, tutorial, and assessment program designed to work with this text to engage students and improve results. Interactive, self-paced tutorials provide individualized coaching to help students stay on track. With a wide range of activities available, students can actively learn, understand, and retain even the most difficult concepts.

With this edition we are thrilled to offer expanded opportunities through MasteringEnvironmentalScience, our powerful yet easy-to-use online learning and assessment platform. We have developed new content and activities specifically to support features in the textbook, thus strengthening the connection between these online and print resources. This approach encourages students to practise their science literacy skills in an interactive environment with a diverse set of automatically graded exercises. Students benefit from self-paced activities that feature immediate wrong-answer feedback, while instructors can gauge student performance with informative diagnostics. By enabling assessment of student learning outside the classroom, MasteringEnvironmentalScience helps the instructor maximize the impact of in-classroom time. As a result, both educators and learners benefit from an integrated text and online solution.

- **“Pearson eText”** gives students access to the text whenever and wherever they have online access to the internet. eText pages look exactly like the printed text, offering powerful new functionality for students and instructors. Users can create notes, highlight text in different colours, create bookmarks, zoom, click hyperlinked words and phrases to view definitions, and view in single-page or two-page view.

- **“Process of Science”** activities help students navigate the scientific method, guiding them through in-depth explorations of experimental design using “Science behind the Story” features. These activities encourage students to think like a scientist and to practise basic skills in experimental design.

- **“Interpreting Graphs and Data”**: “Data Q” activities pair with the new in-text “Data Analysis Questions” and coach students to further develop skills related to presenting, interpreting, and thinking critically about environmental science data.

- **“First Impressions”** Pre-Quizzes help instructors determine their students’ existing knowledge of environmental issues and core content areas at the outset of the academic term, providing class-specific data that can then be employed for powerful teachable moments throughout the term.

- **“Video Field Trips”** allow the instructor to kick off class with a short visit to a wind farm, a site tackling invasive species, or a sustainable campus.

- **“Interpreting Graphs and Data”** exercises and the interactive “GraphIt!” program guide students in exploring how to present and interpret data and how to create graphs.

- **“Viewpoints”** are paired essays, which are authored by invited experts who present divergent points of view on topical questions.

Features

■ **Integrated Central Cases.** Telling compelling stories about real people and real places is the best way to capture students' interest. Narratives with concrete detail also help teach abstract concepts because they give students a tangible framework with which to incorporate new ideas. We integrate each chapter's "Central Case" into the main text, weaving information throughout the chapter. In this way, the concrete realities of the people and places of the central case study demonstrate the topics we cover. Students and instructors using the book have lauded this approach, and we hope it can continue to bring about a new level of effectiveness in environmental science education. As instructors ourselves, we find the central cases to be extremely effective as a pedagogical tool for opening our lectures and setting the stage for new areas of inquiry.

■ **The Science behind the Story.** "Science behind the Story" tells students about the science of the environment in Canada and around the globe, and about the important work of Canadian environmental scientists internationally. This edition showcases many new "Science behind the Story" features, including

- Chapter 5 : Ecological Recovery at Mount St. Helens
- Chapter 6 : A Different Population Bomb: The "Household Explosion"
- Chapter 9 : Counting Species in the World's Most Biodiverse Place
- Chapter 10 : Assisted Migration: Getting Trees Where They Need to Go in a Changing Climate
- Chapter 11 : Near-Death Experience at the Experimental Lakes Area
- Chapter 15 : Keystone XL, Northern Gateway, and the Dilbit Controversy
- Chapter 16 : Weighing the Impacts of Solar and Wind Development
- Chapter 17 : Mount Polley Tailings Dam Failure
- Chapter 18 : Edmonton Showcases Reduction and Recycling
- Chapter 20 : Ethics and Intergenerationality in Economics: Discounting, Climate Change, and the Stern Review
- Chapter 21 : The Great

■ **S.I.** S.I. units of measurement are used exclusively. Imperial units such as the gallon, pound, and the Fahrenheit scale of temperature have not been used in modern science for over a generation. IUPAC recommended defining standard pressure as 1 bar (or 100 kPa) back in 1982. This is the standard that has been adopted by chemists worldwide and is almost exclusive in second-year physical chemistry texts. Only in first-year textbooks does the atmosphere still linger as standard pressure. In this text, standard pressure is the IUPAC-recommended bar. Students will see pressure in various units, but we make little use of the atmosphere. When dealing with ideal gases, the most common value of R is $0.08314 \text{ L bar mol}^{-1} \text{ K}^{-1}$.

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