

NEW TO THIS EDITION

Numerous revisions have been made to the text to update the content on current events and to make the text even more user-friendly and relevant for students.

One overall revision has been made to this edition to further enhance the text's focus on developing concepts and building problem-solving skills:

Case Studies New interactive Case Studies are available for select chapters of the tenth edition. The Case Study boxed readings expand upon interesting topics in the text and then are further supplemented by the online versions. The online Case Studies are assignable through McGraw-Hill ConnectPlus® and include additional reading, videos, animations, assessment questions and other valuable resources. Some examples include:

Chapter 5 Doppler Effect
Chapter 7 Bioluminescent
Chapter 15 Worth the Cost?
Chapter 18 Measuring Plate Movement
Chapter 23 El Niño
Chapter 23 Proxy Data

The list below provides chapter-specific updates:

Chapter 1 New information on scientific communication has been added to help students further understand how the scientific method is implemented in real life situations.

Chapter 3 Chapter 3 includes a new illustration and information about calculating work and when the change of position must be in the same direction as the direction of the force. The chapter also includes updated information on energy resources and a new Myths, Mistakes, and Misunderstandings on recycling.

Chapter 4 New information on energy efficiency has been added. A new figure provides a real-life example of how

condensation and evaporation is involved in laundry. A note to clarify the convention of °C and C° has also been added.

Chapter 7 A new Closer Look on Fiber Optics has been added. Figure 7.7 has been revised to explain how the law of reflection applies to each light ray.

Chapter 8 A Closer Look on semiconductors has been added to help students make everyday connections with the topic of atomic structures. Additional information has been added to direct students to online resource.

Chapter 11 Chapter 11 includes a new Science and Society on BPA.

Chapter 13 New information on the Fukushima I nuclear reactor has been added. The Science and Society on High-Level Nuclear Waste has also been updated with new information.

Chapter 14 New figures have been added to the sections on The Life of a Star and The Life of a Galaxy.

Chapter 15 Chapter 15 includes updated information on the Messenger mission and on spacecraft missions to study comets and asteroids as well as new figures of a comet and asteroid.

Chapter 19 A new Closer Look on Some Recent Earthquakes has been added to update the material with recent events.

Chapter 22 New and updated information has been added to the Science and Society: Use Wind Energy?