

Acknowledgments

The following laboratory activities were adapted in whole or in part from the indicated sources:

- “Our Place in Space”: Part A of this exploration is adapted from the activity “Scale Model of the Solar System” in *Project Physics Handbook*, p. 88.
- “How Do We Know That Atoms Really Exist? The Brownianscope”: Based on instructions suggested by Frey Scientific, Beckley Candy Group, Mansfield, OH.
- “Radioactivity and Nuclear Half-Life”: This investigation follows the suggestions provided by Frey Scientific, Beckley Candy Group, Mansfield, OH.
- “Investigating Measurements and Uncertainty”: This exploration is adapted from *Project Physics Handbook*, Experiments 1-3 and 1-4, and from L.C. McDermott et al., *Physics by Inquiry*, Vol. 1, “Uncertainty,” pp. 20–26.
- “Exploring the Heavens”: Parts B and D of this exploration are adapted from *Project Physics Handbook*, Experiment 1-1, pp. 10–11. Part E of this exploration is adapted from L.C. McDermott et al., *Physics by Inquiry*, Vol. 2, p. 823.
- “Exploring Forces”: This exploration is adapted from *Project Physics Handbook*, Experiment 1-8, pp. 25–27.
- “Finding the Mechanical Equivalent of Heat”: This exploration is adapted from the activity “Mechanical Equivalent of Heat,” in *Project Physics Handbook*, p. 149.
- “Exploring Heat Transfer and the Latent Heat of Fusion”: This exploration is adapted from *Project Physics Handbook*, Experiment 3-11, pp. 128–131.
- “Spacetime: A Computer Excursion into Relativity Theory”: This exploration follows suggestions accompanying the program, *Spacetime* by Professor Edwin F. Taylor, Physics Academic Software, American Institute of Physics, College Park, MD.
- “Exploring Electric Charges, Magnetic Poles, and Gravitation”: The electrostatic portion of this exploration is adapted from *Project Physics Handbook*, Experiment 4-3, pp. 179–180. It was further inspired by the suggestions in A.B. Arons, *A Guide to Introductory Physics Teaching* (New York: Wiley, 1990), Chapter 6.
- “Investigating Electric Currents I”: Parts A and B of this exploration were inspired by L.C. McDermott et al., *Physics by Inquiry*, Vol. 2, pp. 383–389.

“Investigating Waves”: This exploration is adapted from *Project Physics Handbook*, Experiments 3-15 and 3-16, pp. 139–140.

“Avogadro’s Number and the Size and Mass of a Molecule”: This exploration is adapted from S.E. Kennedy et al., *Ideas, Investigation, and Thought: A General Chemistry Laboratory Manual*, 2nd ed., R.S. Wagner et al. (Garden City Park, NY: Avery, 1996), pp. 57–64.