

State Science Curriculum Standards for Unit 4: Simple Measures				
Level	Exercise 1	Exercise 2	Exercise 3	Exercise 4
K-3	K-3.10.1, K-3.11.1, K-3.11.2, K-3.12.1	K-3.10.1, K-3.12.1 (partially)	K-3.10.1, K-3.12.1 (partially)	K-3.10.1, K-3.11.2
4-5	4-5.11.1, 4-5.11.2, 4-5.11.3*, 4-5.12.1*, 4-5.12.2*, 4-5.14.1*	4-5.12.1*, 4-5.12.2*	4-5.10.1, 4-5.12.1*, 4-5.12.2*	4-5.12.1*, 4-5.12.2*
6-8	6.7.4*, 8.11.1, 8.11.2, 8.11.3*, 8.11.4*, 7.12.2, 6.14.4*		7.12.2	
Chemistry I	2.1, 2.2			
Earth Science	2.2			
Geology	2.1*			
Physical Science	1.1, 1.2, 1.3, 1.4*, 1.5*, 2.2		2.2	
Physics	1.1, 1.2, 1.3*, 1.4, 2.1*, 4.6*			

* Denotes learning expectations that may not be addressed directly by a particular exercise, but could easily be related to the material covered through the use of additional assignments or activities, or brought into lecture using suggested information below. Teachers may want to also examine suggestions for grade levels outside their own for further inspiration.

For Teachers K-3

- You may want to illustrate to students that some properties of matter (such as density) can change under various conditions. A good example would be ice/water. Have the students think about why ice floats.

For Teachers 4-5

- You may wish to talk about the differences between potential energy and kinetic energy. You may also wish to stress that friction affects motion. The first exercise is a great place to discuss both of the previous concepts!
- You may also wish to briefly address atoms as the building blocks of matter, and how an objects composition of different kinds of atoms can influence the properties of its matter.

For Teachers 6-8

- Again, the differences between potential and kinetic energy would be great to discuss, as well as how one type of energy can be converted to another.
- Exercise 1 is a good place that you could also introduce/talk about simple machines, as the pulley used in this exercise is a good example of a simple machine.

For High School Teachers

- This box naturally lends itself quite well to classrooms in the physical sciences. However, it could also be used easily in chemistry and biology courses to have students really think about fundamental physical principles affecting all matter.
 - You could easily go into detail regarding atoms and atomic motion.
 - Thinking about the physics/mechanics of biological entities, and the forces, limitations, etc. affecting them is quite easily accomplished in this unit. See the IBEAM link listed in the Links section of the book and Powerpoint presentation for the URL.
- Although not referenced in the text, you may wish to expand on forces, and also talk about the relationship between forces, work, power, and machines.

- You could also have students solve problems using the laws of conservation of momentum and conservation of energy in Exercise 1.
- Also see suggestions for other grade levels for further inspiration regarding physics concepts.