

## Basic Physical Science Objectives

<b>Motion and Forces</b> The student will be able to:	<b>LPS Standard</b>	<b>State Standard</b>	<b>Text Pages</b>
1. use scientific principles to solve a problem by technological design.	12.2.1a	12.6.1a,b,c,d 12.7.6a 12.8.1c	10-13
2. understand and explain how accurate measurements, data display, and graphical representation can affect interpretation.	12.2.1b	12.1.2c	4-8 34-37
3. understand and explain motion in one dimension.	12.2.1c	12.1.3d 12.3.4a	272-277
4. apply Newton's three laws of motion.	12.2.1d	12.3.4a	280-287
5. describe how gravitational forces affect mass and two-dimensional motion.	12.2.1e	12.3.4b	248-249
6. understand and use changes in variables that affect a system to solve problems.	12.2.1f	12.1.1a	
7. understand and predict the effect of unbalanced forces on a system and evaluate the reasonableness of the answers.	12.2.1g	12.1.2d 12.1.5b	246-247

<b>Matter</b> The student will be able to:	<b>LPS Standard</b>	<b>State Standard</b>	<b>Text Pages</b>
1. identify the structure of an atom and its nucleus.	12.2.4a	12.3.1a 12.3.1c	56-57 62
2. identify and explain the 4 states of matter and the changes of state in terms of kinetic theory.	12.2.4b	12.1.2a	18-25
3. apply models for gases to describe and explain changes that occur for a confined gas as the physical conditions of pressure, volume, and temperature change.	12.2.4c	12.1.1a 12.1.2d 12.1.5b 12.1.3d,e	260-263
4. identify the composition of matter and energy in substances, mixtures, and states.	12.2.4d	12.1.2a 12.3.2	80-89
5. distinguish between chemical and physical properties of matter and how matter is conserved.	12.2.4e	12.3.2c	26-29

**Textbook:** *Concepts and Challenges Physical Science*, Bernstein et al, Globe Fearon, 2003