

**Introductory Physical Science/Force, Motion, and Energy Correlation with the Florida Sunshine State Standards - Grade 6-8 Physical Science**

<b>Standard/Benchmark</b>	<b>IPS Ch. 1</b>	<b>IPS Ch. 2</b>	<b>IPS Ch. 3</b>	<b>IPS Ch. 4</b>	<b>IPS Ch. 5</b>	<b>IPS Ch. 6</b>	<b>IPS Ch. 7</b>	<b>IPS Ch. 8</b>	<b>IPS Ch. 9</b>	<b>IPS Ch. 10</b>	<b>IPS Ch. 11</b>	<b>IPS Ch. 12</b>	<b>FM&amp;E Ch. 1</b>	<b>FM&amp;E Ch. 2</b>	<b>FM&amp;E Ch. 3</b>	<b>FM&amp;E Ch. 4</b>	<b>FM&amp;E Ch. 5</b>	<b>FM&amp;E Ch. 6</b>	<b>FM&amp;E Ch. 7</b>
<b><u>The Nature of Matter</u> Standard 1: The student understands that all matter has observable, measurable properties. (SC.A.1.3)</b>																			
1. identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	X	X	X	X		X		X		X		X							
2. understands the difference between weight and mass.														X					
3. knows that temperature measures the average energy of motion of the particles that make up the substance.																			
4. knows that atoms in solids are close together and do not move around easily; in liquids, atoms tend to move farther apart; in gas, atoms are quite far apart and move around freely.								X											
5. knows the difference between a physical change in a substance (i.e., altering the shape, form, volume, or density) and a chemical change (i.e., producing new substances with different characteristics).	X	X	X	X	X	X	X												
6. knows that equal volumes of different substances may have different masses			X											X					
<b><u>Standard 2: The student understands the basic principles of atomic theory. (SC.A.2.3)</u></b>																			
1. describes and compares the properties of particles and waves.																		X	
2. knows the general properties of the atom (a massive nucleus of neutral neutrons and positive protons surrounded by a cloud of negative electrons) and accepts that single atoms are not visible.																			
3. knows that radiation, light, and heat are forms of energy used to cook food, treat diseases, and provide energy.							X											X	
<b><u>Energy</u> Standard 1: The student recognizes that energy may be changed in form with varying efficiency. (SC.B.1.3)</b>																			
1. identifies forms of energy and explains that they can be measured and compared.																		X	X
2. knows that energy cannot be created or destroyed, but only changed from one form to another.																			X

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3. knows the various forms in which energy comes to Earth from the sun (e.g., visible light, infrared, and microwave).																				
4. knows that energy conversions are never 100% efficient (i.e., some energy is transformed to heat and is unavailable for further useful work).																				X
5. knows the processes by which thermal energy tends to flow from a system of higher temperature to a system of lower temperature.																			X	
6. knows the properties of waves (e.g., frequency, wavelength, and amplitude); that each wave consists of a number of crests and troughs; and the effects of different media on waves.																	X			
<b>Standard 2: The student understands the interaction of matter and energy. (SC.B.2.3)</b>																				
1. knows that most events in the universe (e.g., weather changes, moving cars, and the transfer of a nervous impulse in the human body) involve some form of energy transfer and that these changes almost always increase the total disorder of the system and its surroundings, reducing the amount of useful energy.																				
2. knows that most of the energy used today is derived from burning stored energy collected by organisms millions of years ago (i.e., nonrenewable fossil fuels).																				
<b>Force and Motion Standard 1: The student understands that types of motion may be described, measured, and predicted. (SC.C.1.3)</b>																				
1. knows that the motion of an object can be described by its position, direction of motion, and speed.																X	X			
2. knows that vibrations in materials set up wave disturbances that spread away from the source (e.g., sound and earthquake waves).																		X		
<b>Standard 2: The student understands that the types of force that act on an object and the effect of that force can be described, measured, and predicted. (SC.C.2.3)</b>																				
1. knows that many forces (e.g., gravitational, electrical, and magnetic) act at a distance (i.e., without contact).														X						



