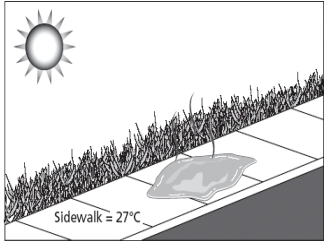
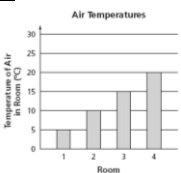
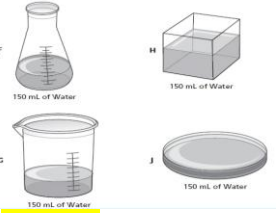


PHYSICAL SCIENCE : MATTER					
Standard	By the end of this unit I will be able to	NOTES		SAMPLE QUESTIONS	
507.9.1	distinguish between physical and chemical properties.	<p><b>physical properties</b> – properties of matter that can be observed or measured without changing the matter examples: odor, mass, volume, color, state, density</p> <p><b>chemical properties</b> – the ability or tendency of matter to change its chemical makeup; ability to react with another substance examples: rusting; burning; bubbling; change of color; heat, light, and/or sound is produced</p>		<p><b>1.</b> Which of these describes a chemical change in matter? A Wax melts B Paper burns C Rocks break D Copper shines</p> <p><b>2.</b> An example of a chemical change in matter is A Chopping wood B A nail rusting C Melting an ice cube D Rolling a piece of clay</p>	
507.9.2	describe the differences among freezing, melting, and evaporation.	TERM	STATE OR PHASE	TEMPERATURE	<p><b>3.</b> The picture shows a puddle of water on a sidewalk.</p>  <p>Which <b>best</b> describes what is happening to the water?</p> <p>A As heat is added, the water will melt. B As heat is removed, the water will freeze. C As heat is removed, water vapor will condense. D As heat is added, the water will evaporate.</p>
		melting	solid → liquid	<ul style="list-style-type: none"> <li>add heat</li> <li>32° for water</li> </ul>	
		freezing	liquid → solid	<ul style="list-style-type: none"> <li>Remove heat</li> <li>0° C for water; (32° F)</li> </ul>	
		evaporation	liquid → gas	<ul style="list-style-type: none"> <li>Add heat</li> <li>Depends on humidity</li> </ul>	
		condensation	gas → liquid	<ul style="list-style-type: none"> <li>Remove heat</li> </ul>	
		sublimation	solid → gas	<ul style="list-style-type: none"> <li>Add heat</li> </ul>	
		boiling	liquid → gas	<ul style="list-style-type: none"> <li>Add heat</li> <li>100° C for water (212° F)</li> </ul>	

Standard	By the end of this unit I will be able to	NOTES		SAMPLE QUESTIONS
507.9.3	describe factors that influence the rate at which different types of material freeze, melt, or evaporate.	<b>FACTORS THAT AFFECT THE RATE OF EVAPORATION</b>		<p>A student has four samples of ice, each in an 8-ounce plastic cup. Each sample has a mass of 50 grams and a starting temperature of <math>-10^{\circ}\text{C}</math>. Each sample is placed in a different room. The graph shows the original air temperature in each room.</p> <p><b>4.</b></p>  <p>Compared to the ice in the other rooms, what will most likely happen to the ice in Room 4?</p> <p>A It will freeze the fastest.                      B It <b>will melt the fastest.</b>                      C It will evaporate the fastest.                      D It will condense the fastest.</p> <p><b>5.</b> Students are testing how the shape of a container affects the rate of evaporation. They place four containers of water outside on a windy day. From which open container will the water <b>most likely</b> evaporate the fastest?</p>  <p><b>Answer: J</b></p> <p><b>6.</b></p> <p>Small pieces of ice are broken off a large block of ice. Compared to the block of ice, the pieces of ice will completely melt</p> <p>A faster than the block of ice.                      B slower than the block of ice.                      C at a higher temperature than the block of ice.                      D at the same rate as the block of ice.</p> <p><b>Answer: A</b></p>
		<b>FACTOR</b>	<b>HOW IT AFFECTS EVAPORATION</b>	
		temperature	higher temp = quicker evaporation	
		wind	more wind = quicker evaporation	
		surface area	more surface area = quicker evaporating	
		humidity	more humidity = slower evaporation	
		<b>FACTORS THAT AFFECT THE RATE OF FREEZING &amp; MELTING</b>		
		<b>FACTOR</b>	<b>HOW IT AFFECTS FREEZING &amp; MELTING</b>	
		temperature	higher temp = quicker melting lower temp = quicker freezing	
		size & shape	smaller pieces will melt faster	
		conduction	substances placed in containers that are good conductors will cool down faster	
		changing composition	adding salt to ice or snow will lower its freezing point and keep it from refreezing	