Key Concept Review

1. What physical properties could be used to describe a substance?
2. Give two examples to illustrate the difference between a physical and a chemical property.
3. How is an element different than a compound? Give an example of each.
4. What is the difference between a pure substance and a mixture?
5. How is a suspension different from a colloid?

Connect Your Understanding

6. The melting and boiling points of five chemical substances are shown in the table below. What state of matter does each exist in at room temperature (about 20°C)?

Substance	Melting Point (°C)	Boiling Point (°C)	State at Room Temperature
water	0	100	
oxygen	–218	–183	
ammonium nitrate	170	210	
ethanol	–117	79	
mercury	–39	357	

7. What physical property is described by each of the following statements?
   a) Solid oxygen melts at –218°C.
   b) A penny cannot scratch glass.
   c) Silver is shiny.
   d) Gold can be made into thin sheets.
   e) Both aluminum and copper can be used for making wire.
8. Classify the following substances as an element, compound, or mixture:
   a) Pop is composed of water, sugar, and carbon dioxide.
   b) Graphite in a pencil is composed of carbon.
   c) Carbon dioxide is composed of carbon and oxygen.
9. Someone sprinkles dilute acetic acid over your French fries. Are they safe to eat? Explain your answer.