

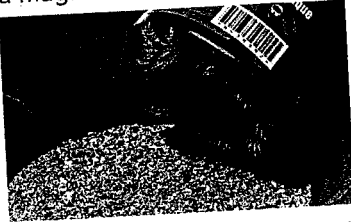
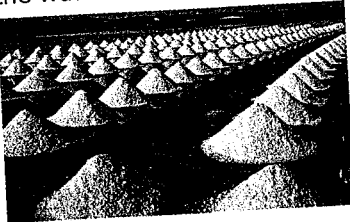
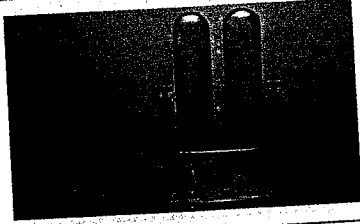

CONCEPT 4

Matter can be classified based on how it responds to physical and chemical changes.

Matter can be classified based on how it can be separated or broken down using physical and chemical changes. As you can see in **Table 2.1**, matter can be either a mixture or a pure substance. A pure substance can be either a compound or an element. The rest of the unit will focus on pure substances and the models and theories that help explain their properties and changes.

Connect to Investigation 2-E on pages 130–131

Table 2.1 Classifying Matter Based on Physical and Chemical Changes

Type of Matter	Description	Examples	
Mixtures	Can be separated into parts by physical changes.	<p>A mixture of iron filings and sand can be separated using a magnet.</p> 	<p>A solution of salt and water can be separated by allowing the water to evaporate.</p> 
Pure substances	Compounds: Can be broken down into two or more elements by chemical changes but not physical changes.	<p>Passing an electric current through water produces the elements hydrogen and oxygen.</p> 	
	Elements: Cannot be separated or broken down by physical or chemical changes.	<p>These lights contain neon gas, an element.</p> 	

Before you leave this page . . .

- Classify each of the following as a mixture or a pure substance.
 - a) oxygen
 - b) lemonade
 - c) mercury(II) oxide