

Name: _____

Hour: _____ Date: _____

Chemistry: Classifying Matter

Classify each of the materials below. In the center column, state whether the material is a **pure substance** or a **mixture**. If the material is a pure substance, further classify it as either an **element** or **compound** in the right column. Similarly, if the material is a mixture, further classify it as **homogeneous** or **heterogeneous** in the right column. Write the entire word in each space to earn full credit.

Material	Pure Substance or Mixture	Element, Compound, Homogeneous, Heterogeneous
concrete		
sugar + pure water ($C_{12}H_{22}O_{11} + H_2O$)		
iron filings (Fe)		
limestone ($CaCO_3$)		
orange juice (w/pulp)		
Pacific Ocean		
air inside a balloon		
aluminum (Al)		
magnesium (Mg)		
acetylene (C_2H_2)		
tap water in a glass		
soil		
pure water (H_2O)		
chromium (Cr)		
Chex mix		
salt + pure water ($NaCl + H_2O$)		
benzene (C_6H_6)		
muddy water		
brass (Cu mixed with Zn)		
baking soda ($NaHCO_3$)		

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<i>Material</i>	<i>Pure Substance or Mixture</i>	<i>Element, Compound, Homogeneous, Heterogeneous</i>
concrete	Mixture	<i>Heterogeneous</i>
sugar + pure water (C ₁₂ H ₂₂ O ₁₁ + H ₂ O)	Mixture	<i>Compound</i>
iron filings (Fe)	Pure Substance	<i>Element</i>
limestone (CaCO ₃)	Pure Substance	<i>Element</i>
orange juice (w/pulp)	Mixture	<i>Heterogeneous</i>
Pacific Ocean	Mixture	<i>Heterogeneous</i>
air inside a balloon	Mixture	<i>Homogeneous</i>
aluminum (Al)	Pure Substance	<i>Element</i>
magnesium (Mg)	Pure Substance	<i>Element</i>
acetylene (C ₂ H ₂)	Pure Substance	<i>Compound</i>
tap water in a glass	Mixture	<i>Homogeneous</i>
soil	Mixture	<i>Heterogeneous</i>
pure water (H ₂ O)	Pure Substance	<i>Compound,</i>
chromium (Cr)	Pure Substance	<i>Element,</i>
Chex mix	Mixture	<i>Heterogeneous</i>
salt + pure water (NaCl + H ₂ O)	Mixture	<i>Homogeneous</i>
benzene (C ₆ H ₆)	Pure Substance	<i>Compound</i>
muddy water	Mixture	<i>Heterogeneous</i>
brass (Cu mixed with Zn)	Mixture	<i>Homogeneous</i>
baking soda (NaHCO ₃)	Pure Substance	<i>Compound</i>