

Classification of Matter 2

Name: _____

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.
- 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.

| <u>Material</u> | Pure Substance | → Element or Compound |
|---|----------------|--------------------------------|
| | Mixture | → Homogeneous or Heterogeneous |
| Laundry detergent (white & blue crystals) | | |
| sugar + pure water ($C_{12}H_{22}O_{11} + H_2O$) | | |
| iron filings (Fe) | | |
| limestone ($CaCO_3$) | | |
| orange juice (water and pulp) | | |
| Pacific Ocean (Water and Salt) | | |
| air | | |
| aluminum (Al) | | |
| magnesium (Mg) | | |
| acetylene (C_2H_2) | | |
| tap water in a glass | | |
| pure water (H_2O) | | |
| soil | | |
| chromium (Cr) | | |
| baking soda ($NaHCO_3$) | | |
| salt + pure water ($NaCl + H_2O$) | | |
| benzene (C_6H_6) | | |
| muddy water | | |
| brass (Cu mixed with Zn) | | |
| Pizza | | |
| Hydrochloric acid (HCl) | | |

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| Material | Pure Substance → | Element or Compound |
|---|-------------------------|-------------------------------------|
| | Mixture → | Homogeneous or Heterogeneous |
| Laundry detergent (white & blue crystals) | Mixture | Heterogeneous |
| sugar + pure water (C₁₂H₂₂O₁₁ + H₂O) | Mixture | Homogeneous |
| iron filings (Fe) | Pure substance | Element |
| limestone (CaCO₃) | Pure substance | Compound |
| orange juice (water and pulp) | Mixture | Heterogeneous |
| Pacific Ocean (Water and Salt) | Mixture | Homogeneous |
| air | Mixture | Homogeneous |
| aluminum (Al) | Pure substance | Element |
| magnesium (Mg) | Pure substance | Element |
| acetylene (C₂H₂) | Pure substance | Compound |
| tap water in a glass | Mixture | Homogeneous |
| pure water (H₂O) | Pure substance | Compound |
| soil | Mixture | Heterogeneous |
| chromium (Cr) | Pure substance | Element |
| baking soda (NaHCO₃) | Pure substance | Compound |
| salt + pure water (NaCl + H₂O) | Mixture | Homogeneous |
| benzene (C₆H₆) | Pure substance | Compound |
| muddy water | Mixture | Heterogeneous |
| brass (Cu mixed with Zn) | Mixture | Homogeneous |
| Pizza | Mixture | Heterogeneous |
| Hydrochloric acid (HCl) | Pure substance | Compound |