

Elements, Compounds, and Mixtures

1. Indicate if the following is an element, compound, or a mixture.

- a) A pure substance that can only be broken down by chemical means. _____
- b) A pure substance that cannot be broken down by physical or chemical means. _____
- c) Two or more substances that are combined together, where each substance retains its own chemical identity. _____

2. Indicate if the following are elements, compounds, or mixtures.

- a) shampoo_____
- b) a lead paperweight_____
- c) skin_____
- d) baking soda, NaHCO_3 _____
- e) a flower petal_____
- f) copper wire_____
- g) water_____
- g) sugar dissolved in coffee_____

3. Indicate if the following are heterogeneous or homogeneous

- a) oatmeal cookie_____
- b) black coffee_____
- c) tea with ice_____
- d) hot fudge sundae_____
- e) mayonnaise_____
- f) shaving cream_____

4. Sodium chloride has a solubility of 36.0 g NaCl/100 mL of water. If 18.0 g of sodium chloride is dissolved in 25.0 mL of water, is the solution saturated, unsaturated, or supersaturated?