

Read Ch. 3.3-3.4, pp. 66-74 in your text then answer the following questions.

1. How are elements and compounds similar? How are they different?
2. What does it mean for a material to be pure?
3. What is the smallest representative particle of an element? Of a compound?
4. How do mixtures and pure substances differ?
5. Heterogeneous mixtures are (**chemical, physical**) combinations composed of (**one uniform-looking phase, two or more distinct phases**) that is/are (**easy, difficult**) to separate.
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7. Classify each of the following substances as; an element (E), a compound (C), a homogeneous mixture (hom), or a heterogeneous mixture (het).

a. Air	b. Carbon Dioxide	c. Potassium
d. Caesar Salad	e. Oxygen	f. Vegetable Soup
g. Kool Aid	h. Hydrogen Peroxide	i. Steel (an alloy)
j. Carbon	k. Salt	l. Copper
m. Pure Water	n. Calcium Nitrate	o. Salt Water
p. Tylenol (acetaminophen)	q. Apple Pie	r. Neon
s. Sugar Water	t. Selenium	u. Coffee
v. Lead	w. Raisin Bran	x. Apple Juice

8. Mixtures can be separated by differences in (**chemical, physical**) properties.
9. What properties could be used to separate the following mixtures?
 - a. Iron grains & sand grains
 - b. Ethanol & Methanol (two liquids)
 - c. CuCl_2 dissolved in water
 - d. Pasta in water