Name _____ Date _____ Period _____

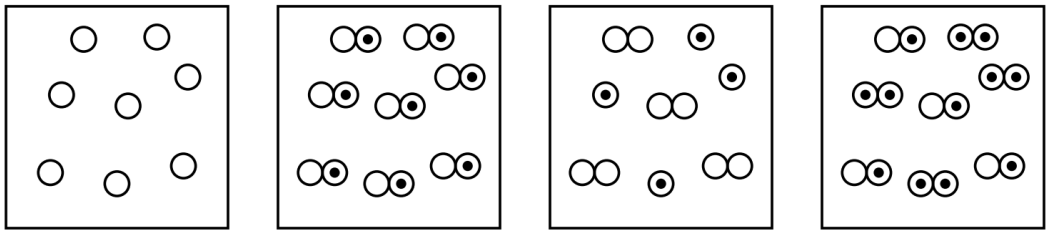
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1.4 Composition of Mixtures

AP Chemistry

Use a periodic table. Show all work with units and correct significant figures.

1. Each circle is an atom. Plain and dotted circles are different elements. Classify each box as a pure element, a pure compound, a mixture of elements, or a mixture of an element and a compound.



A **B** **C** **D**

2. A 3.00 g sample of impure KCl contains 1.30 g of chlorine. The impurity contains no chlorine. Calculate the percent KCl in the sample.

3. A white powder is pure NaCl, pure KCl, or a mixture of the two. Elemental analysis shows it is 55.0% Cl by mass. Which is it? Justify your answer.

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4. A 10.00 g mixture of NaCl and KCl contains 5.50 g of chlorine. Calculate the mass of NaCl in the mixture.

5. A 4.00 g sample of rock is 25.0% Fe_2O_3 by mass, and the rest is SiO_2. Calculate the mass of iron in the sample.

6. A sample of $CaCO_3$ is contaminated with sand, SiO_2. Will the measured mass percent of calcium be higher or lower than the value for pure $CaCO_3$ (40.04%)? Explain.

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