Solutions & Concentrations

Name: _____

1) What concentration, in pph, will a sucrose solution have if composed of 45.5 grams of sugar in 300 grams of water?

2) A student took 1500 grams of water and dissolved 0.5 grams of silver nitrate in the water. What is the ppm of the silver nitrate in solution?

3) 14 karat gold is 58 pph gold, 32 pph silver and 10 pph nickel. If a 14 K gold ring weighs 7.5 g, how many grams of each metal is in the ring?

4) A solution contains 300 ppm of calcium ions. The amount of calcium in the sample is 0.0045 g. What is the mass of the solution?

5) In a 2000 mL bottle of drinking water, mercury levels need to be below 1.0×10^{-6} g. What is the ppb of mercury in the water? (density of water = 1.0 g/ml)

6) In the following examples, determine what substances is the solute and what is the solvent.

Solution	Solute(s)	Solvent
Steel		
Tea		
Gasoline		

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Name: _____

1) What concentration, in ppm, will a Kool-Aid solution have if composed of 1.2 grams of Kool-Aid in 2000 grams of water?

2) A person made a sugar water solution by dissolving 50 grams of sugar in 225 grams of water. What is the pph of the sugar in the sugar water solution?

3) Chlorine concentrations in drinking water can be as high as 500 ppm. A standard glass of water is 750 g. How many grams of chlorine would be in that water?

4) A solution contains 4.2 pph of sodium ions. The amount of solution is 3000 g. What is the mass of the sodium?

5) Lead poisoning can occur in a person if the concentration is 0.10 ppm, or 100 ppb. The average human being has 4600 g of blood in their body. If the blood is the solution, what mass of lead can cause lead poisoning?

6) In the following examples, determine what substances is the solute and what is the solvent.

Solution	Solute(s)	Solvent
Ocean Water		
Coffee		
Brass		