**SI WORKSHEET 7**

1. Ca(OH)2 + 2HCl 🡪2 H2O + CaCl2. If there are 100 g of each reactant, how many water molecules can be produced?$\frac{100 g Ca\left(OH\right)2}{}X\frac{1 mol Ca\left(OH\right)2}{74 G}x\frac{2 mole H20}{1 mol Ca\left(OH\right)2}x\frac{6.022E23}{1 mol}$=1.65E24 water molecules.
2. C6H12O6 + C2H5OH 🡪 C8H16O6 + H2O

If there are 20 ml of ethanol and 50 grams of glucose, how many water molecules can you produce? (density of ethanol =0.789 g/ml)$ \frac{50 g glucose}{}x\frac{1 mole glucose}{180.2 g glucose}x\frac{1 mole H2O}{1 mole glucose}x\frac{6.022E23 H2O molecules}{1 mole H20}$=1.67 x 1023 water molecules

1. 3CaC2O4 + 2Na3PO4 🡪 Ca3(PO4)2 + 3Na2C2O4
	1. A student performs this reaction with 75 grams of Calcium oxalate and 125 g of Sodium phosphate and produces 45 g of the calcium-containing product and the student determines the percent yield to be 65%. Is the student correct? If not, what should the student have received for percent yield? No, the student should have received a percent yield of about 74.6%
2. What is an electrolyte? What is the difference between strong and weak electrolytes? (**Challenge yourselves to see which of the compounds in questions 2-4 would be strong or weak electrolytes**). Electrolyte are compounds that break up into ions when dissolved in a solvent, strong electrolytes completely break up into ions and weak electrolytes only partially break up into ions.
3. What do the terms solute, solvent, and solubility refer to?

Solute—what dissolves

Solvent—what does the dissolving

Solubility—the ability for a solvent to dissolve a given solute