**INSTRUCTIONS:**

Complete the steps below to solve each problem alternating roles as directed. Each student must show all steps of each problem on their own paper. When it is your turn to do a step, do it on your paper. When it is your partner's turn, copy what s/he has done onto your paper (make sure each step is correctly done before going on). Each team should submit a copy of their work for grading.  Should you not complete the assignment in class today, the remaining problems are to be completed as homework and submitted individually.

**ACTIVITY:**

For each of the stoichiometry questions below use the following stoichiometry frameworks. The steps are already written into the framework for you. For all steps except step 2 do the work in the box BELOW the step instructions. For step 2, write the required information in the box immediately ABOVE the directions for step 2, but under the appropriate formula of the balanced chemical equation.

1. Solid calcium hydroxide is titrated with hydrochloric acid solution to produce water and a solution of calcium chloride (use the compound formula). How many grams of water are formed from 14.55 g of calcium hydroxide?

Complete the five steps of the stoichiometry for Question 1. Student 1 should do all the odd-numbered steps. Student 2 should do all the even-numbered steps.

1. Dodecane (C12H26) burns completely. If 43.1 g of dodecane are burned, how many grams of carbon dioxide are produced?

Complete the five steps of the stoichiometry for Question 2. Student 2 should do all the odd-numbered steps. Student 1 should do all the even-numbered steps.

1. Aqueous lithium sulfide is involved in a soluble-replacement reaction with aqueous aluminum chloride. How many grams of aluminum chloride are needed to react completely with 1.084 g lithium sulfide?

Complete the five steps of the stoichiometry for Question 3. Student 1 should do all the odd-numbered steps. Student 2 should do all the even-numbered steps. Use compound formulas in the chemical equation.

1. Sodium sulfide reacts with hydrochloric acid to produce table salt and hydrogen sulfide (sewer gas smell) according to the unbalanced equation below. If 4.5 grams of sodium sulfide is used in this reaction, how much table salt could be generated?

Complete the five steps of the stoichiometry for Question 4. Student 2 should do all the odd-numbered steps. Student 1 should do all the even-numbered steps. Use compound formulas in the chemical equation.



