Golden Rain

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To do the Golden Rain experiment you will need:
1 gram of potassium iodide
1 gram of lead nitrate
200 ml of water in one flask
200 ml of water in another flask
Scale
Gloves
Goggles
A burner
Doing any chemistry experiment you will need to be cautious with the chemicals. Make sure you are in a safe place, and not in a position where your materials can be knocked over. The lead nitrate in this experiment is very toxic because it's a form of lead. Make sure to wear gloves and be careful of the fumes. (Solution can be poured down the drain.)
1. Measure out 1 gram of potassium iodide, and in a separate container measure out 1 gram of lead nitrate
2. Measure out 200 ml of water in 2 different flasks, you'll have a total of 400 ml of water.
3. Add the potassium iodide to one flask, and add the lead nitrate to the other. Make sure all material is dissolved before moving on. (If not dissolved you may heat the solution on a burner.)
4. Pour the potassium iodide to the lead nitrate solution. Once the solution has cooled down, your reaction will happen leaving you with golden crystals.
5. Shine a light through the bottle to see the crystals.
I experimented with different measurements and many of them didn't work out very well. I added an extra gram for the chemicals, and used less water for some of the experiments. In the end I found the best solution; 200 ml of water, and 1 gram of each chemical.
Recrystallization is a method of purification, which relies on differences of solubility of compounds in a solvent at different temperatures. The compound to be purified is very poorly soluble at ambient temperature but significantly more soluble at elevated temperatures. A certain amount of compound is mixed with a solvent, the solution is heated at which stage the compound dissolves. Then the solution may be filtered while hot if needed (to remove insoluble impurities) and is then allowed to cool down slowly. The compound crystallizes, typically in a very pure form and can be collected. In this experiment, lead iodide will be recrystallized.