



## LESSON 15

# CREATING PRECIPITATES

*A precipitate is the formation of a new compound that is not soluble. When a precipitate is formed, a solid substance will be visible floating in the liquid. In this lab, we will simply be observing to see instances where precipitates form and instances where they do not form.*

### Supplies

- ⚙ Well plate
- ⚙ Sodium carbonate
- ⚙ Calcium chloride
- ⚙ Iron(III) chloride
- ⚙ 6 pieces of glassware
- ⚙ Disposable pipettes
- ⚙ Copper(II) sulfate
- ⚙ Sodium hydroxide
- ⚙ Sodium phosphate
- ⚙ Water

### Instructions

1. Make aqueous solutions of each of the chemicals by dissolving roughly 1 g of the chemical in 10 mL of water. This does not need to be exact, you just need aqueous solutions to mix. You can use any glassware you have available to you: test tubes, beakers, or even small mason jars.
2. For each box in the data table, place 1-2 drops of each solution that intersects in a spot on the spot plate. For example, for the first box, you will mix a few drops of  $\text{Na}_2\text{CO}_3$  with  $\text{Na}_3\text{PO}_4$ .
3. If the solution becomes cloudy, that means a precipitate has formed. Write a “P” in the data table for precipitate. If nothing changes and the solution is still transparent, write “NR” for no reaction.
4. Continue this procedure until all substances are mixed and each box in the data table is filled.

- Clean up your space. You may rinse all of the chemicals down the drain running the faucet during the entire process.

## Data Table

$\text{Na}_2\text{CO}_3$					
$\text{CuSO}_4$					
$\text{CaCl}_2$					
$\text{NaOH}$					
$\text{FeCl}_3$					

## Discussion Questions

- How many precipitates formed during this experiment?
- Were any of the reactions difficult to tell whether or not a precipitate formed? If so, why? What might you be able to do to determine if a reaction actually happened?