



Solutions

STEM Sims

Lesson 3: Forming a Precipitate

You know that a solid can dissolve in a liquid. But what happens when two liquids are mixed together and the result is an insoluble solid? An insoluble solid that “comes out” of solution when two dissolved substances are mixed is called a precipitate. Can you identify the precipitate formed in the following mixing?

Doing the Science

1. Start the Solution Simulation by clicking on the “Sim” tab.
2. Click on the bottle containing 1 M CaCl_2 to add the liquid to the beaker.
3. Note and record in Table 1 if any solid is present in the beaker.
4. Click on the “Reset” button to remove the 1 M CaCl_2 from the beaker.
5. Click on the bottle containing 1 M Na_2CO_3 to add the liquid to the beaker.
6. Note and record in Table 1 if any solid is present in the beaker.
7. Again, click on the bottle containing 1 M CaCl_2 to re-add the liquid to the beaker. Click the “Stir” button.
8. Note and record in Table 1 if any solid is present in the beaker.

Table 1.

Substance	Appearance	Solid Present? (Circle your choice)	
		Yes	No
1 M CaCl_2		Yes	No
1 M Na_2CO_3		Yes	No
1 M CaCl_2 and 1 M Na_2CO_3		Yes	No

Do You Understand?

1. The transition of a solution from clear to cloudy indicates that a solid (precipitate) was formed. Based on your results, was a precipitate formed at any point of this experiment?
2. List the dissolved ions present in the 1 M CaCl_2 solution.
3. List the dissolved ions present in the 1 M Na_2CO_3 solution.
4. Use your results from Lessons 1 and 2 and your answers from the two previous questions (2 and 3) to identify the solid in the beaker (if one was formed).