Name: _____ Class: _____ Date: _____

Where's the Evidence?

Day Three: Making Milk

Because today is an early day, there is no Pre-Lab to complete. Please gather materials, complete the lab, and then begin the Post-Lab Questions. All lab materials (Pages 304-310) will be graded on Monday.

Goal:

Observe what happens when calcium chloride (ice melt) is mixed with sodium carbonate (washing soda).

Materials:

- calcium chloride ($CaCl_2$) flakes
- sodium carbonate (Na_2CO_3) powder
- a stirring rod
- a blue scoop
- goggles
- three empty beakers
- a funnel

Procedure:

1. Observe calcium chloride and sodium carbonate. Write down observations.
2. Fill two beakers with 80 ml of water.
3. Measure out 5 ml of calcium chloride. Add it to the first beaker; stir until dissolved.
4. Measure out 5 ml of sodium carbonate. Add it to the second beaker; stir until dissolved.
5. Observe both liquids. Write down observations.
6. Pour both liquids into your third beaker.
7. Observe resulting changes. Write down observations. **Don't drink it; it's not actually milk!*
8. Let the liquid settle for two minutes. Observe and write down observations.

Observations:

Substance	**Observations** *(flakes and powder)*	**Observations** *(after dissolving)*	**Observations** *(during reaction)*	**Observations** *(after reaction)*
calcium chloride ($CaCl_2$)				
sodium carbonate (Na_2CO_3)				

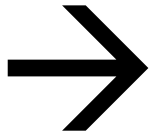
Post-Lab Conclusions:

1. Below is the chemical formula for today's reaction (with one compound missing). Fill in the formula of the missing compound.

$$CaCl_2 + Na_2CO_3 \rightarrow \quad\quad + 2NaCl$$

2. What is the "common name" for the new compound? *See Page 205 for a hint.

3. Draw a before-and-after picture of the reaction below.



4. What were the <u>reactants and products</u> in today's reaction? *Use common names!

5. Do you think dissolving the flakes/powder in the water counts as a chemical reaction?

6. Which of the four clues told us that the mixing of the two liquids *was*, in fact, a chemical reaction?

7. Classify today's reaction as synthesis, decomposition, replacement, or none.