



Is This Substance Reacting or Dissolving?

In this short activity you will determine if a reaction is taking place or if a substance is merely dissolving in another substance to form an aqueous solution.

NOTE: (The information from this lab – the pre-lab, lab observations and post-lab questions will be collected- please see the grading criteria on the back of this handout).

Pre-lab: Before we get started let's answer a few questions. Record answers on your tablet or in your lab notebook

1. List observations which might be evidence of a chemical change.
2. What is the difference between a chemical and a physical change?
3. What is a mixture?
4. What is a solution?
5. What is a precipitate?

Lab: Observe what happens when each of the following substances are combined. Record your observations.

1. Approximately one gram of sodium bicarbonate is added to 50 ml of de-ionized water
2. Approximately one gram of sodium bicarbonate is added to 50 ml of vinegar
3. Approximately five grams of vinegar is added to 50 ml of de-ionized water
4. A dropper full of .100 M AgNO_3 is added to five ml of de-ionized water
5. A dropper of .100 M AgNO_3 is added to five ml of .100 M NaCl
6. Approximately one gram of $\text{Mg}(\text{NO}_3)_2$ is added to five ml of de-ionized water

Post-lab: Record the answers to the following questions on your tablet or in your lab notebook.

1. In which of the six combinations was there evidence of a chemical reaction?
2. Describe this evidence for all combinations that resulted in a chemical reaction.
3. Write a balanced chemical equation for each combination in which a chemical reaction took place.
4. In which of the six combinations was there no evidence of a chemical reaction?
5. What do you think happened when these substances were combined?
6. Are the original substances still present in the reaction vessels for which there was no evidence of a chemical reaction?
7. What could you do to prove that original substances are still present?

If time permits- try out your idea in question 7 for one of the combinations. Be sure to discuss this procedure with your teacher before proceeding.