

3 D Assessment  
Planning and Carrying Out an Investigation

Ken, Mike, Susanna and Kathy observed their science teacher place calcium chloride, baking soda and a small vial of liquid universal indicator in a ziplock bag. The teacher sealed the bag and spilled the liquid. The students observed the changes that took place. Based on their observations, the students wanted to determine what materials caused the various reactions they observed and decided on a plan to follow. They also determined the chemical reaction and wrote the following equation:



Answer the following questions based on the scenario above. Provide evidence and explanation for your responses.

1. What Science & Engineering Practice was the main focus of the scenario? Explain.
2. What is the phenomenon the students encountered? Explain.
3. When the students wrote out the chemical equation, what Crosscutting Concept was being emphasized? Explain.
4. Provide examples of questions students might develop if they chose to focus on the Science & Engineering Practice of Asking Questions.
5. How might this activity be changed into an engineering problem?