

## Student Page

**Title:** How do you know when a chemical reaction has occurred?

**Introduction:** What evidence is there that a chemical reaction occurs? How would you know if chemistry was going on in the container next to you?

### Prediction/Hypothesis

If \_\_\_\_\_,  
[state hypothesis]  
Then by changing \_\_\_\_\_ and measuring  
[INDEPENDENT VARIABLE]  
\_\_\_\_\_, I predict that  
[DEPENDENT VARIABLE]  
\_\_\_\_\_.  
[Prediction of results. Be specific. Do not simply state that there will be an effect]  
Because \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.  
[Scientific phenomenon to support your prediction. Cite evidence from your textbook.]

### Procedures:

1. Measure 10ml of distilled water in a 25ml graduated cylinder, and pour it into a 100ml beaker. Using a pipette, add one drop of 0.1 M ammonia to the water.
2. Stir 15 drops of universal indicator into the solution with a stirring rod. Observe the solution's color. Measure its temperature with a thermometer.
3. Drop a piece of effervescent tablet into the solution. Observe what happens. Record your observations, including any temperature change.

### Data/Observations:

### Analysis

1. Describe and changes in the color or temperature of the solution.
2. Was a gas produced? If so, what did you observe to support this?
3. Did a physical or chemical change occur? Explain.

### Conclusion: