

CHAPTER 16	Launch Lab: The Chemical Blues	BLM 16.0.1
HANDOUT		

Reversible chemical reactions are very important in chemistry. In this activity, you will observe an example of a reversible change that involves a change of colour.

Safety Precautions



- Sodium hydroxide is harmful if swallowed or if the fumes are inhaled. It causes irritation to the skin and eyes. If you spill any solution on your skin, immediately rinse the area with plenty of cold water and inform your teacher. If you spill sodium hydroxide solution on the lab bench or floor, immediately inform your teacher.
- Methylene blue will stain clothing and may also cause eye irritation.
- Wash your hands when you have completed the Launch Lab.

Materials

- 500 mL Erlenmeyer flask with stopper
- 8 mol/L NaOH(aq)  
- 5% glucose solution (5 g/100 mL)
- methylene blue indicator
- test tube with stopper
- ice bath
- warm-water bath

Procedure

Your teacher will carry out this investigation as a demonstration.

1. Your teacher will have prepared the following solution ahead of time. It will be sitting in a stoppered flask.
Add fresh solutions of the following to a 500 mL flask:
 - 250 mL glucose solution
 - 7.5 mL 8 mol/L NaOH
 - 1 to 2 drops of methylene blue
2. Record the appearance of the solution in the flask.

As a class, discuss the nature of each of the components of the solution.

3. The teacher will give the flask a few vigorous shakes.
4. Observe and record the appearance of the solution in the flask. Wait patiently.
5. Discuss any possible explanation for the change in the colour of the solution.
6. Wait until the appearance of the solution in the flask changes colour again. Record the change.
7. Propose possible reasons for the changes in the colour of the solution. The list of materials might give you some hints.

