

Flask and Tubing Observation Activity

Observation Skills



Introduction

Illustrate the necessity of observation of all parts of the system, to generate inquiry, and to provide a concrete example of the need to have an understanding of all the components before a problem can be solved.

Concepts

- Observation
- Critical thinking

Materials

Cork ball, 1 inch

Plastic tubing, 1/8", 10 inches

Flask, Florence, silvered, 500-mL

Safety Precautions

Although this laboratory activity is considered nonhazardous follow all laboratory safety guidelines. Wash hands thoroughly with soap and water before leaving the laboratory. Please review current Material Safety Data Sheets for additional safety, handling, and disposal information.

Procedure

1. Display the silvered Florence flask and plastic tubing to the students and pass them around for inspection.
2. Without the students noticing, roll the cork ball into the Florence flask.
3. Insert one end of the tubing into the Florence flask.
4. Invert the Florence flask and the tubing will magically stay in the flask.
5. Lightly pull on the free end of the tubing and invert the Florence flask. Let go of the flask and it will hang from the tubing.
6. Grasp the flask and gently push on the tubing. Remove the tubing from the flask and hand it to a student for inspection.
7. At the same time tilt the Florence flask so that the cork ball rolls into your hand without the students noticing. Give the now empty flask to a student for inspection.
8. Repeat steps 1–7 as many times as desired.

Disposal

All components of this demonstration may be reused. Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures governing the disposal of laboratory waste.

Tips

- The cork ball wedges against the tubing in the narrow neck of the flask thereby holding the tubing in the flask. The light weight and composition allow the ball to be nearly silent as it rolls in the flask.
- The Silver Mirror Award, AP6893 provides a Florence flask and the materials necessary to silver the flask. A Flinn Scientific freebie is also available. Request ChemFax 691.00 for instructions about silvering your own glassware.

Connecting to the National Standards

This laboratory activity relates to the following National Science Education Standards (1996):

Unifying Concepts and Processes: Grades K–12

Evidence, models, and explanation

Content Standards: Grades 5–8

Content Standard A: Science as Inquiry

Content Standard G: History and Nature of Science, nature of science

Content Standards: Grades 9–12

Content Standard A: Science as Inquiry

Content Standard G: History and Nature of Science, nature of scientific knowledge

Flinn Scientific—Teaching Chemistry™ eLearning Video Series

A video of the *Flask and Tubing Observation Activity*, presented by Mike Roadruck, is available in *Observation Skills* and in *Using Demonstrations to Promote Inquiry*, part of the Flinn Scientific—Teaching Chemistry eLearning Video Series.

Materials for *Flask and Tubing Observation Activity* are available from Flinn Scientific, Inc.

Catalog No.	Description
AP6893	The Silver Mirror Award Kit
GP3090	Flask, Boiling, Flat Bottom, Florence, Borosilicate Glass, 500-mL
AP8373	Plastic Tubing, $\frac{1}{8}$ " ϕ , 10 Feet
AP5808	Ball, Cork, 19, Drilled

Consult your *Flinn Scientific Catalog/Reference Manual* for current prices.