

## **Alternative Activity 11.2**

### **Description**

In this activity the students will handle and examine a laboratory reactor, or tour a laboratory that contains reactors that are used to measure kinetics.

### **Objective**

The objective is to allow students to see and examine typical laboratory reactors.

### **Preparation**

Obtain small laboratory reactors (from your lab, a colleagues, department u/o lab, etc.) for use in class, and, if necessary, secure a cart or other means of transporting the reactors to class. Set up stations in class for each reactor.

Alternatively, identify a colleague's research lab, a department unit operations lab, etc. that has laboratory reactors in it and arrange for a tour. If possible, have a graduate student, lab manager, etc. present to describe the reactors and how they are operated. If possible, have at least one reactor that is not in operation that can be opened and examined closely by the students.

### **Lesson Plan**

1. If going to a laboratory, lead the class there or arrange ahead of time to meet there at a specified time.
2. Go to each reactor and provide appropriate details about the reactor at that station (type, reactions it has been used for, etc.), then let the students examine it.

### **Variations**

Have the students write a one-minute paper at the end of the session describing one of the reactors they examined.

### **Tips and Suggestions**

If bringing reactors to class, avoid glass reactors to reduce breakage, and possibly bring along additional components such as mass flow controllers, back pressure regulators, etc.

If touring a lab, use this as an opportunity to teach good safety practice. Require the class to wear safety glasses, and if they are handling anything requiring use of gloves, those too.