Title: Ben Franklin, Scientist: Electricity

Submitted by: Linda Ruehle
Grade Level: 4-6

Materials:
What’s the Big Idea, Ben Franklin? By Jean Fritz or other Franklin biography
Leyden jars- enough for every 2-4 students.
See WWW.thebakken.org/education/fieldtrips/static-handout1.htm for Leyden jar instructions. Prepare ahead of time.

Objectives:
• To familiarize students with Ben Franklin’s scientific accomplishments.
• To observe how Leyden jars collect and discharge electricity

Procedure:
1. Introduce students to Ben Franklin’s work as a scientist and to eighteenth century beliefs about electricity by reading selections from What’s the Big Idea, Ben Franklin?
2. Discuss the experiments and parlor tricks performed in the 1700s.
3. Give each pair or group of students a Leyden Jar apparatus and have them perform several trials, varying the number of times the aluminum pie tin is touched to the nail head. Students may also try to send an electrical discharge through a group by holding hands and having one person hold the film canister at the base while another student touches the nail.
4. Have students record their observations in their science notebooks.

Discussion:
Discuss the following:
Did varying the number of times the pie tin was touched to the nail affect the electrical discharge?
Were there times when they did not get a shock? Why did this occur?
Why was it safe for us to perform this experiment?

Follow-up Activity:
Have students work on line to perform of Ben Franklin’s kite experiment and lightning rod at www.pbs.org/benfranklin/exp_shocking.html

Evaluation:
Student journal entries and class discussion