

Chemistry Can Be Fun
1987 Summer Sessions
University of Wisconsin—Madison

(Please Print)

Student _____ Age _____

School _____ Grade _____

Science Teacher _____

Parent or Guardian _____

Address _____

Daytime Telephone # _____

Check one:

_____ Summer Session #1 June 29—July 3)

_____ Summer Session #2 (July 13—July 17)

_____ Summer Session #3 (July 20—July 24)

I give my child, _____,
permission to enroll in the 1987 Chemistry Can Be Fun Program.

(Signature of Parent or Guardian)

_____ Check for \$45.00 enclosed (payable to "Chemistry Can Be Fun")

_____ I request scholarship support. (Please enclose a letter giving annual taxable income and any relevant information. Requests are confidential.)

Return this form to: **Institute for Chemical Education
Department of Chemistry
University of Wisconsin—Madison
1101 University Avenue
Madison, WI 53706
Telephone: 263-2424**

*"I liked the fact that there was something
I could take home!"*

*"I realized that chemistry can be fun and
these experiments showed that everything
relates to chemistry."*

*"They had cool endings when you fin-
ished the project!"*

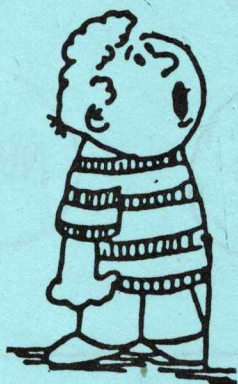
*"All your demonstrations were fabulous.
I especially liked the balloons with
helium and hydrogen."*

*"I have had a fun time telling my family
and friends about our experiments. I am
sure that what I have learned and seen
will help me in the future."*

*"I learned about plastics and polymers,
metals and alloys, chemical analysis."*

*"They were exciting, neat, and I learned
from them."*

Chemistry Can Be

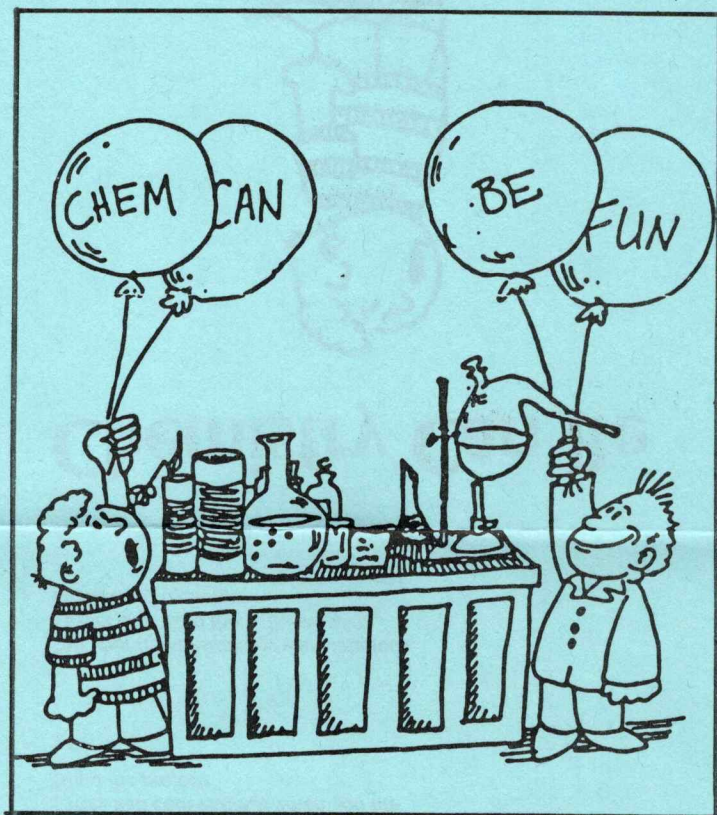


What?

An Invitation

From: The University of Wisconsin—Madison's Institute
for Chemical Education

To: Students from Madison and area communities
who will enter grades 6, 7, and 8 in the Fall of
1987-88



You are invited to visit the University of Wisconsin-Madison this summer to explore the world of chemistry—the world around you—with the Institute for Chemical Education. Learn the properties of common elements. Learn how atoms and molecules combine to form all kinds of new substances—substances that are brittle or flexible, colored or clear, solid, liquid, or gas. Work in a chemistry laboratory to make a latex rubber ball, grow crystals, make a penny look like gold, identify a mystery liquid, and much more.

A Note to Parents:

We will offer three sessions of the **Chemistry Can Be Fun** laboratory program this summer (June 29–July 3, July 13–17, and July 20–24). Each session runs for five weekday afternoons from 1:15 to 4:15 p.m. in the Chemistry Building at the University of Wisconsin-Madison, 1101 University Avenue. There is a registration fee of \$45, with a few scholarships available for those who document the need.

A staff of experienced chemistry teachers will supervise students closely. Instructors emphasize laboratory safety while communicating fundamental concepts in chemistry and encouraging students to exercise their reasoning skills.

CHEMISTRY CHALLENGES

(Ask an adult to help you with these fun activities.)

EXPERIMENTS

1. Add a drop of food coloring to a glass of cold water and to a glass of hot water. Do not mix or move the water in the glasses. Watch the color in each glass. Do you see any difference?
2. Pour some water into a plate. Sprinkle pepper or cinnamon or parsley flakes all over the surface of the water. Add one drop of dishwashing soap into the center of the plate on top of the water. Watch what happens.
3. Place about 1/4 cup of vinegar into a glass. Add some baking soda to the vinegar. What do you observe? Try this with some lemon juice or a carbonated beverage.

EXPLANATIONS

- If you try these activities, let us know how they worked for you.
1. The movement of the food coloring molecules throughout the water is called **diffusion**. The molecules move faster in the hot water than in the cold water.
 2. Soap molecules are attracted to the water but not to the pepper or other floating items. As the soap molecules spread out over the surface of the water, the pepper is pushed to the edge of the plate.
 3. Baking soda reacts with acidic substances like vinegar or lemon juice to produce the gas **carbon dioxide**. In the carbonated beverage, even more of this gas is produced since the beverage contains dissolved carbon dioxide.