

Dear Beakman,
How does the quartz crystal in a watch work?
Billy Dellvow
Bath, Michigan

Beakman or Jax,
P.O. Box 30177
Kansas City, MO 64112
Send your question & address.

Dear Billy,
I love this question because *You Can* have such a great time getting the answer.
A quartz watch is the opposite of a Lifesaver™ sparking in your mouth! Isn't that cool?
You'll have to go into the closet for this – but just until you see the light.

Beakman
Beakman Place

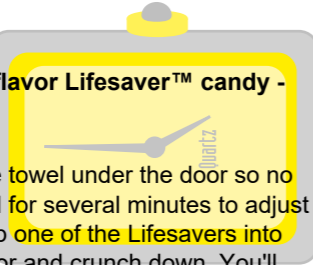
experiment #1

WHAT YOU NEED:

Mirror - roll of *Cryst-O-Mint* flavor Lifesaver™ candy - closet - towel

WHAT TO DO:

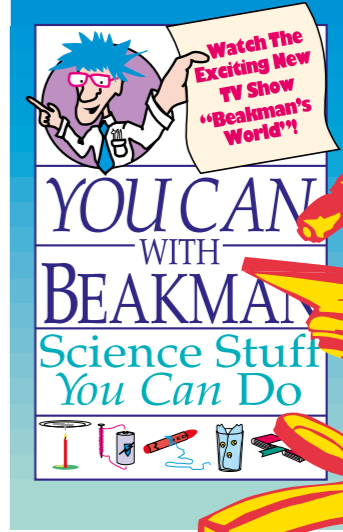
Go into the closet and stuff the towel under the door so no light at all gets in. Look around for several minutes to adjust your eyes to the darkness. Pop **one of the Lifesavers** into your mouth. Look into the mirror and crunch down. You'll see your mouth light up with a white flash. Cool, huh?



WHAT IS GOING ON:

You just created *piezo electricity* (pee-AY-zo). Here's what it is: If you put *physical energy* into some crystals, they change it into electrical energy. The reverse is true, too. If you put *electrical energy* into these crystals, you get physical energy back out. That's how a quartz crystal watch works. A battery puts electrical energy into the quartz crystal, which vibrates at controlled speeds – such as 30,000 times a second. A computer chip then counts the vibrations to figure out the time. 30,000 vibrations equals 1 second.

You Can still win a Tasco microscope or a copy of my fabulous book. Send us a report on something you're figuring out or doing this summer.



Name, address, phone & photo to:
Summer Vacation Contest,
P.O. Box 30177, Kansas City, MO 64112.

Deadline:
August 1, 1993