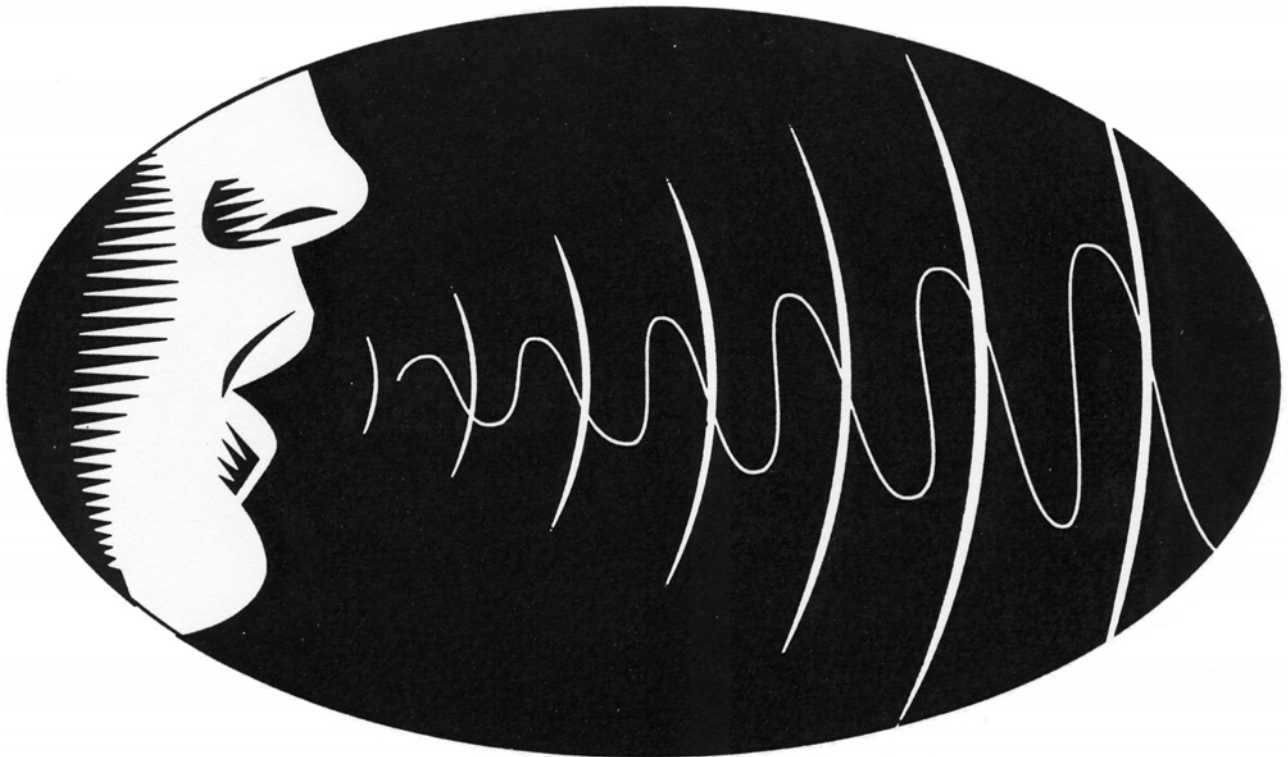
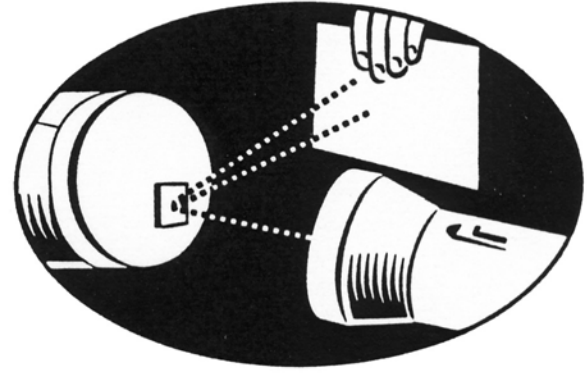
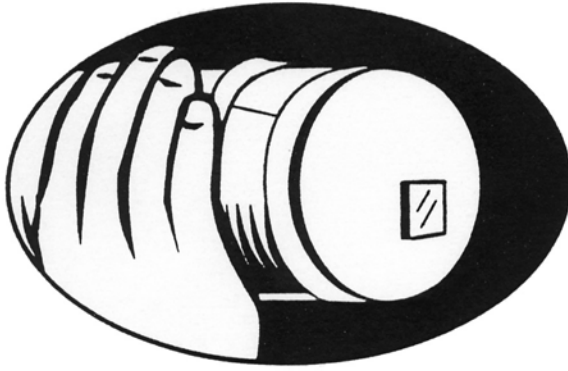


## An Activity from Beakman's World

*"It's a Wild World. Somebody's Gotta Show You How it Works"* is the battle cry for **Beakman's World**, a live-action television series aiming to prove that learning about science, nature and how the world works can be fun and fascinating. Beakman, a humorous, inquisitive and never boring scientist (played by Paul Zaloom) has dedicated himself to answering kids' questions. Beakman and his colorful sidekicks explore science and technology to show kids how they impact our daily lives. Now in its fourth season, **Beakman's World** has received numerous honors. The show is featured Saturdays on CBS. You too can write to Beakman at **Beakman's World**, P.O. Box 30087, Kansas City, MO 64112 and maybe your question will be answered on an upcoming episode.





## Make an Oscilloscope

(Pronounced "Ah-sil-lo-scope") An oscilloscope is an instrument used to see patterns of sounds as well as hear them. Students can see the vibrations their voices make by building their own oscilloscopes.

### Grade Level

Elementary

### Materials

- Balloon
- Masking tape
- Glue
- Very small mirror
- Flashlight
- Small steel can (like V-8 can)
- Plain white card
- An inquiring mind

### Discussion

From motorcycles to motion pictures, engineers make motors hum and soundtracks sing. They have helped invent ways to record sounds as well as ways to get rid of noise where you might live. Think of the highway walls that keep traffic sounds out of quiet neighborhoods.

Sound comes from patterns or waves of vibrations in the air which, in turn vibrate in your ear, which is how you hear.

(Notice which word is in the word hear).  
An oscilloscope lets you see sounds.

### Activity

Remind students that any time they perform activities such as these, an adult should be present. For this activity, students can work in teams, with one set of materials for each. In advance of your school visit, remove both ends of the cans. Have the students:

1. Stretch a balloon piece tightly over one end and secure it with masking tape.
2. Attach the mirror to the balloon with a small amount of glue. Don't put the mirror in the middle of the balloon, it won't work as well.
3. Dim the lights then shine the flashlight so that it reflects off the mirror. Hold a plain white card so the light reflects off the mirror and onto the card.
4. Next have someone speak into the can. The reflection will vibrate as he/she talks.

### Questions for students

- What sorts of vibrations do different voices make?
- Why might engineers and scientists want to study sound waves?
- How can you stop sound from traveling?

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