chirping crickets

how can little crickets make such big noise?

What Do You Need?

- A rubber band
- Your Pop Bottle without the top
- A playing card or index card

What Do You Do?

1. Stretch the rubber band over the bottle opening and under the bottom. Make sure the rubber band is tight.
2. Pluck the rubber band with your finger, and with your other hand, touch the rubber band with the edge of the card. You should hear a buzzing sound.
3. Experiment and make different sorts of sound. Saw on the rubber band with your card. Pluck the rubber band with your card.
4. Now hold a different rubber band between your thumb and index finger. Pluck it with the card. What do you notice about the difference in the volume of sound?

What’s Going On?

The sound of the rubber band is amplified when it is stretched across the bottle opening. The bottle amplifies sound just like the body of a guitar or violin does.

When crickets chirp, they drag their rough upper wing across their lower wing, much as you scrape the rubber band with the card. For crickets, this action produces a vibration that is amplified by the membranes of the wings.

big idea

make a bottle magnifier.

What Do You Need?

- A plastic pop bottle
- Water
- Small printed text

What Do You Do?

1. Fill the bottle completely with water.
2. Tighten the cap.
3. Hold the bottle sideways directly on top of the text. What do you notice?
4. Move the bottle slowly away from the small print. You’ll see the print flip upside down!

What’s Going On?

The water turns the bottle into a lens, and a lens can do interesting things. When light passes through a lens, an image can twist, bend, curve, and even turn upside down.

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