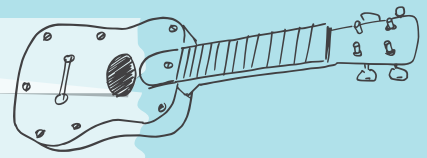


ACTIVITY 1

Some instruments make sound by plucking, or pulling, on a string. Others make noise with a little help from your voice. Can you guess what kind of instruments we're going to create in our first activity?

LET'S MAKE



WHAT YOU'LL NEED

INCLUDED



CARDBOARD TUBES



RUBBER BANDS



WAXED PAPER



TRANSPARENT TAPE

NOT INCLUDED

PENCIL



SCISSORS





STEP 1

Take one of the cardboard tubes and cut it in half so you have two tubes that are each 4" long.



STEP 2

Place a rubber band around the tube so it goes over the opening at the top and the bottom of the tube.



STEP 3

Pluck the rubber band with your index finger and thumb. Notice the sound it made.

Pluck means to pick up something quickly and move it.



STEP 4

Tighten the rubber band across the top of the tube. Pluck the rubber band again. Notice the sound it made. It should sound different than before. If it doesn't, try loosening or tightening the rubber band until you can make different sounds. **Tip:** To make the band tighter or looser, stretch the band to the length you need it across the top of your tube and use your index finger and thumb of one hand to hold the band in place on the side of the tube. Use the other hand to pluck the band. It might be helpful to have someone hold the band on the tube while you pluck it.

You've made a string instrument – except your strings are rubber bands! The rubber bands vibrate over the hole and **amplify** the sound. Guitars, violins, harps, and cellos all work in a similar way.

Amplify means to make bigger.

STEP 5

Now grab the other half of the tube you cut, take one piece of waxed paper, and place it over one end of the tube.



STEP 6

Secure it with a rubber band. Make sure the surface of the waxed paper is tight over the hole!



STEP 7

Using a sharp pencil or tack, poke a hole in the waxed paper. It doesn't need to be big. An adult might need to help you with this part.



STEP 8

Hold the noncovered end of the tube up to your mouth and talk or sing into the tube. You've made your own kazoo! If you have time, decorate the outside of your kazoo.



The hole in the waxed paper lets the paper vibrate, or move, when air from your mouth pushes it. This makes the sounds you are hearing.

THINK ABOUT IT

With this activity, you were able to make two different sounds with the rubber band and tube. Can you make a third sound that's different from the other two?

In this activity, you learned about the words *pluck* and *amplify*. Think about the meaning for each one. Can you think of an example and a non-example for each one of when you would use that word?

Why does changing the tightness of the rubber band change the sound that you hear?