

# Paper Cup Speaker

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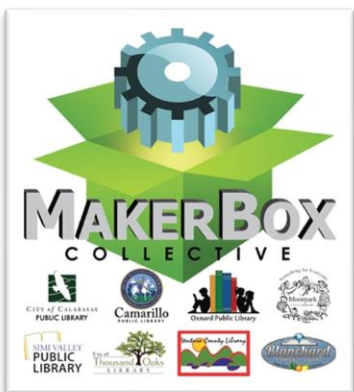
*What happens  
when the sound is  
directed into a smaller  
angle?*

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Sometimes you just need a little more volume! Let's make a paper cup speaker to amplify the sound of your phone.

## Things You Need

Two paper cups, one toilet paper roll, craft knife, markers or decorative papers (optional)



## Steps

1. Trace the base of your phone onto the paper roll.
2. Cut out the line you traced using a craft knife. (Get some help from adults!)
3. Trace a circle onto the side of each cup using the paper roll. Make sure to mark the circles close to the base of the cup.
4. Cut out the circles.
5. Put the toiler paper roll into the holes making sure they fit tight.
6. Decorate your speaker if you want! Be creative!
7. Insert your phone into the slot and enjoy the music!

## Takeaway

When the phone plays music, the sound spreads out all around. But when you put the phone inside the paper roll, the sound is directed down the roll toward the paper cups and out from there! The cups focus the sound waves pointing them in one direction rather than dispersed all around. This is why people cup their hands around their mouth to shout!

