

Build a Telephone

Using two hard plastic or tin containers, like cottage cheese or coffee cans, poke a small hole in the bottom and thread 4 inches of the end of a 10- to 15-foot piece of string through each hole. Tie a knot on the length of rope inside each of the cans so that the string does not slip through the opening. Stretch out as far as you can, leaving a little slack in the string. Say something into the open end of your can. The string should pick up the vibration of what you are saying, and if your partner with the other can has it up to his ear, he can hear what you are saying clearly. Experiment with different string lengths, volumes, and can types to see how they compare.

Supplies:

2 paper cups (you can also use empty tin cans)
1 long piece of string (or yarn)
2 paper clips

Instructions:

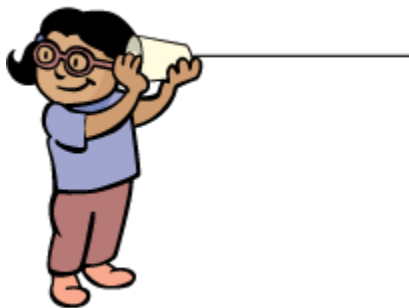
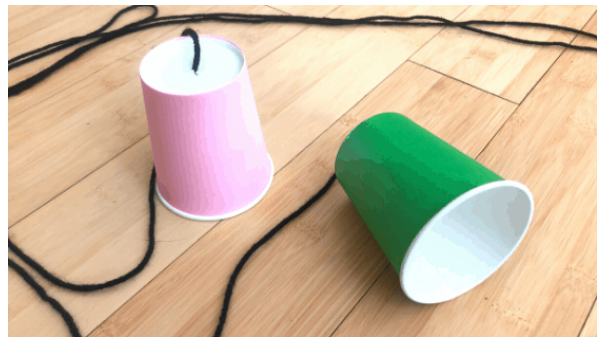
Cut a small slit on the bottom of each paper cup.

Tie a knot with the string at one end of the paper clip.

Repeat #2 with the other end of the string.

Stick the paper clips in the small holes at the bottom of the paper cups.

Grab the other ends of the paper clips and pull the paper clips and string through.



Have your kids take each paper cup and walk away from each other until *the string is taut*.

Have one kid put the paper cup to his/her ear and have the other one softly speak into his/her paper cup.

Troubleshooting

If someone can't hear the other person with the cup telephone, check the following:

- Is the string taut?
- Is the string touching another object besides the cups?
- Is there noise in the background? If so, go to a quiet area.

Extend the activity

- Use a plastic cup (or tin can) instead of a paper cup or vice versa. Does the type of cup matter?
- Use different types of strings and observe how the strings change the quality of sound. You can try yarn, cotton twine, fishing line, kite string, etc.
- Try different string lengths. How long can you make the line and still hear each other?
- Try making the string slack. Can you still hear anything?
- Touch the string to an object. Can you still hear anything?

Background

Our voices cause vibrations, or sound waves, that typically travel through the air. Using the cups/cans and string allows the vibrations to move down the string instead of through the air.