



Paper Cup & String Phone

A much-loved childhood project, the paper cup phone is much more than a fun and old-fashioned way for kids to communicate throughout the house. This elementary sound science project shows kids how sound waves can travel through a string and be converted back to audible sound at the opposite end.

Materials Included:

- 2 Paper Cups (you can also use old cans from your recycling bin)
- String (10-30' long)

Additional household materials:

- Sharp pencil or pin to poke holes in the cups

1. Poke a small hole in the center of the bottom of each cup.
2. Using each end of the string, thread it through the bottoms of the cups, tying a large knot so that the string does not fall out of the cup. If you make the holes too large, use a washer or paper clip to hold the string in place so that it does not pull out of the cup.
3. Work with a partner so that each of you holds a cup, moving far enough away from each other that the string is tight. Be sure that the string does not touch any other object and that it remains suspended in air as you complete the experiment.
4. Taking turns, talk into the cup, while the other person listens by putting the cup to their ear. Have your partner repeat what he or she hears after you have spoken and do the same in return!

ADDITIONAL QUESTIONS

- Try letting the string go slack. Is the cup-and-string telephone still effective?
- If you have a third person around, ask them to hold on to the center of the string with their hand. Will the sound still carry through? Why or why not?
- If you have other materials (such as yarn, fishing line, nylon string, etc.) on hand, try them out. How do different materials change the quality of sound or how far the sound will travel?

Credits:

- <https://www.scientificamerican.com/article/talk-through-a-string-telephone-bring-science-home/>