

Sound Powered Telephones

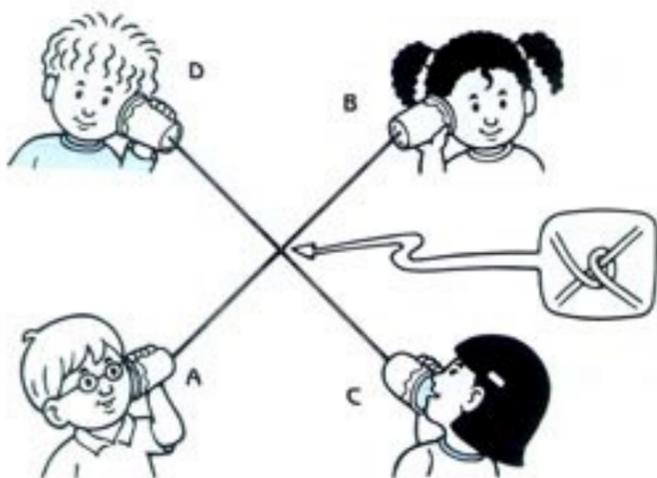
A sound-powered telephone is a communication device that allows users to talk to each other without the use of external power. This technology has been used since at least 1944 for both routine and emergency communication on ships. Many different types of equipment have attempted to replace sound-powered telephones on ships, but due to the rugged, reliable and power-free nature of this equipment, it remains in use on all US military vessels!

Make a String Telephone Network

1. Using a toothpick, make a hole in the center of each cup bottom.
2. Carefully break each toothpick in half.
3. Using one piece of string, tie one end to one half of a toothpick.
4. Place the other end of the string into a second cup and through the hole. Pull the string until the toothpick is flat against the bottom of the cup.
5. Pull the free end of the string through the hole in a second cup, starting from the outside.
6. Tie the string to the other half of the toothpick.
7. Pull the string until the second toothpick is flat against the bottom of the cup.
8. Repeat steps 3-7 with the remaining materials
9. follow the illustration to loop one telephone set into the other to create a network.

Materials

- 2 Toothpicks
- 4 Paper cups
- 2 Five Foot Lengths of String



Using Your Telephone

With one person holding one cup each, stand far enough apart that the string is tight between both cups, making sure nothing is touching it. One person talks into the cup, while the second person listens by placing the cup over their ear.

How It Works

Sound-powered telephones are just what the name implies. They are telephones powered by the sound pressure of your voice rather than batteries or electricity. If your phones work properly, speaking in a strong, clear voice generates enough current to carry your voice to all other phones on the circuit. When you talk into the cup, sound vibrations travel through the air into the cup. Those vibrations travel through the cup, the string, the second cup, back into the air, and into your friend's ear.

